

# ***THE B&O MODELER***



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## **MODELING B&O OPEN HOPPERS, 1919 TO 1963 – AN OVERVIEW BUILDING A WESTERFIELD M-15E BOXCAR**

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Cover Photos – Top, Hoppers – Bruce D. Griffin photo. Bottom, M-15e – Bruce D. Griffin photo.

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## AN INVITATION TO JOIN THE B&O RAILROAD HISTORICAL SOCIETY

The Baltimore and Ohio Railroad Historical Society is an independent non-profit educational corporation. The Society's purpose is to foster interest, research, preservation, and the distribution of information concerning the B&O. Its membership is spread throughout the United States and numerous foreign countries, and its scope includes all facets of the B&O's history. Currently the Society has over 1600 registered members.

Members regularly receive a variety of publications offering news, comments, technical information, and in-depth coverage of the B&O and its related companies. Since 1979, the Society has published a quarterly magazine, *The Sentinel*, dedicated to the publication of articles and news items of historical significance. Other Society publications include monographs, calendars, equipment rosters, and reprints of original B&O source material. Their

purpose is to make otherwise unobtainable data available to the membership at reasonable cost.

Membership in the Society is a vote of support and makes all of the Society's work possible. It provides those interested in the B&O with a legitimate, respected voice in the railroad and historical communities. By working together, B&O fans are able to accomplish much more than by individual efforts. No matter how diverse your interests or how arcane your specialty, others share your fascination with America's most historic railroad. We invite your participation. Several classes of [annual memberships](#) are available. Regular memberships are only \$35.00. If you would like to join, click [here](#) to fill out our [membership application](#), print a copy and mail it to:

**B&ORRHS**  
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## FROM THE EDITOR

“Publish or Perish” the words that seem to rule the academic life of a researcher in the university setting. In that setting, one's peers expect that one will take the knowledge that one is exposed to and expand upon it by publishing works that build upon what has already been written. In a historical society such as ours we are not held to such a high standard. However, I feel we might have the same obligation to our peers, even in our casual association. When we get information from our Archives or another source, we owe those who selflessly spent their time finding it and making it available to us. We owe them by

taking the time to combine that information with that we have obtained from other sources and writing it down for posterity and our friends. The Modeler fills that role for some of us. We can write about the models we make and what we have learned from others. In a direct way we can allow those modelers at the Archives who spend their time organizing general information with specific details about how to model a particular freight car or an engine. It is a small thank you to them for the time they have spent helping all of us modelers and historians alike.



Right now the shelves are a little bare and we do not have many articles to publish. As a fill in, I wrote an article about a Westerfield M-15e kit I have just finished. It is not rocket-science and will not bring to light new information, but it will allow us to publish some information and photos from the Archives and friends like researcher Jim Mischke. These photos of the actual cars may give those who want to build one of these kits a head start on their research. I didn't publish the article to show everyone I can build a model, but rather to give others this head start. The article has some good prototype photos and details about the kit that will allow a friend to start building a better representation of a B&O M-15e boxcar. It's published and while it may not keep me from

perishing, I hope it at least helps one of my friends build a better model.

Speaking of building better models, check out this link recently published on the Steam Era Freight Cars Yahoo Group

[http://rapidshare.de/files/16945521/Freight\\_car\\_Underbody.pdf.html](http://rapidshare.de/files/16945521/Freight_car_Underbody.pdf.html) Scroll past all the ads and follow the links. Click on "free" to get the file, but be prepared it's a 20Mb file. This one article may give you more information about modeling underframes and brakes than you ever wanted to know. I am not going to change existing models (including those in this issue), but many thanks to the author, Gene Green, and his friends for sharing this information via the internet.



Barry Rubin's HO Scale Layout,. Tsadok Blok Photograph.

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## NEWS FROM THE COMPANY STORE

BY GEORGE STANT

Why should you become a member of the Baltimore and Ohio Railroad Historical Society? Besides belonging to one of the finest railroad organizations in existence, you will also get some nice discounts on the multitude of items that we sell through our Company Store. For example as a Society member, you can save up to 20% on most books over the price we charge to the general public. And on our models, you can save from between 10% and 15%, more with some of the specials that we send out to members.

The same goes for the more than 175 reprints of manuals, track plans, and other documents taken from B&O historical records. And remember the profits from these sales go directly back to the Society's ongoing preservation efforts.

If you want to learn more about joining the Society, make sure you read "An Invitation to Join the B&O Railroad Historical Society" earlier in this edition of *The B&O Modeler*.

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## MARYLAND MINI-CONVENTION

### AUGUST 12, 2006

On August 12, 2006 the B&O Railroad Historical Society will be hosting our Maryland Mini-Con at the Grace Episcopal Church in Brunswick, MD. This will be the third year we've had our mini-con in Brunswick and our first at this AIR CONDITIONED venue.

We've lined up some great speakers and I hope all who attend will enjoy them. First we have Harry Eck. Harry is the retired Superintendent of Motive Power for Chessie and started his career with the B&O back in the steam days. Harry has been most gracious in sharing his experiences on the railroad and at the mini-con he will be presenting on the early diesels on the B&O. For modelers Harry's talks are excellent resources and he's one of the few living authorities who have had first hand experience with this topic.

Next John Teichmoeller will be presenting on his latest project, the Ilchester Station. I won't give too much away, but all has not been what it seems during his research. It will be a most interesting talk on the history of the station and the interesting things that

have been uncovered during the research of its design and construction.

Wade Rice comes in with a fine presentation of the slides of Bill Price, who's work was featured in the excellent "B&O Steam Finale" Vols. 1 & 2. We will end our day with Bob Cohen's expanded presentation on the Valley Line of the B&O. Bob, as many will remember, gave a presentation at Staunton on this subject and he has been continuing his research since then. I'm looking forward to what he's dug up...especially since I missed the Staunton presentation. (I was there, just at the company store room.)

We've had good feedback on the presentations from everyone who has attended in the past and we've taken care of the only complaint from last year (no A/C). This year I think will be just as interesting and particularly useful to diesel modelers. I look forward to seeing you there!

*Nick Fry, Mini-Con Organizer, Archivist, Board Member At-Large*

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## MODEL PRODUCT NEWS

### EDITOR NEEDED

#### HO Scale

Athearn Genesis B&O EMD F-7's with DCC and sound have sold briskly, A unit #973 is sold out with more expected the end of June. A/B set #961 is sold out and A/B sets #186 and #192 are in short supply at Horizon Hobbies.

Branchline Trains has released their Pullman 14 section sleeper. They are not doing a B&O decorated version.

InterMountain Railway is having a warehouse clearance sale. Included in the sale are B&O EMD passenger F-3 A and B units. A hobby shop we know is selling the powered A units for \$59.95 and the powered B units for \$54.95. The A units are numbered 82, 84, 86, and 88 and the B units are not numbered.

Laser Horizons B&O 1949 Columbian passenger car sides are in stock and available for all the cars except the dome. These sides will make an accurate model of the lightweight Columbian, there is no need to accept "stand in cars". You can choose full skirts or no skirts and use Eastern Car Works, Train Station Products, or Walther's core kits.

Walther's EMD E-8 A/B sets and EMD GP-30's are in stock now both with DCC and sound and straight DC. The latest release dates for their passenger cars of interest to B&O modelers is as follows; Pullman 10-1-2 sleeper Sept. 2006, modernized paired window coach Nov. 2006, ACF 70' baggage Dec. 2006, Pullman 28-1 parlor car Feb. 2007, and the Pullman sleeper-lounge-solarium April 2007.

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## UPDATES AND ERRATA



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## MODELING B&O OPEN HOPPERS, 1919 TO 1963 – AN OVERVIEW

BY BEN HOM



A B&O HO scale coal train consisting of models available from the B&ORHS Company Store over the past few years; from left to right, a Proto 2000 Class N-37 War Emergency twin hopper, an Accurail Class N-17 USRA twin hopper, and an Athearn Class N-41 AAR offset twin hopper. Bruce D. Griffin Photograph

***Students of the Baltimore & Ohio Railroad appreciate the significance of coal to this railroad and consequently the large number of hopper cars operated by the B&O.***

*- Chris Barkan, The Sentinel, May/June 1992*

### Overview

Coal became a major source of traffic for the Baltimore & Ohio Railroad by 1843, when the railroad began to tap the soft-coal deposits around Cumberland, Maryland. After the Civil War, as coal replaced wood as fuel for railroad, industrial, and home uses, coal traffic drastically increased. In 1850, total U.S. coal production was 8.3 million tons; by 1870, it had almost quintupled to 40.4 million tons, and would double again by 1880. By the dawn of the 20<sup>th</sup> Century, coal production exceeded 269 million tons. Strategically located to exploit this growing traffic, the B&O pioneered development of iron freight cars designed specifically for hauling coal, and hopper cars would make up a major part of its freight car fleet. By 1950, over half the B&O freight car fleet (50,940 of 95,446) was hopper cars. B&O hopper cars were not only a staple of B&O coal trains, but were a common sight throughout the Northeast. For example, a study of Rutland car records at Alburg, Vermont documenting cars carrying company coal between May 1947 and January 1951 shows that out of 1104 foreign road hoppers, 276 cars (25%) were from the B&O.

### Scope of B&O Hopper Project

Surprisingly for the third largest hopper fleet of all U.S. railroads (behind only the Pennsylvania and the Chesapeake & Ohio railroads), only one published article in the enthusiast press to date attempted to systematically address the B&O's hopper fleet ("B&O Hoppers: Prototype and Modeling", Barry Rubin, *The Sentinel*, Fourth Quarter 2003.) Many other articles addressed modeling individual car classes, but the B&O modeler (as well as modelers of other Northeastern railroads) lacked a comprehensive resource on building a representative fleet for his or her model railroad. In an attempt to fill this gap, this is the first article in a continuing series on modeling the hopper fleet of the Baltimore & Ohio Railroad from the end of World War I to the merger with the Chesapeake & Ohio Railroad in 1963. Following articles will focus on a single car class or group of closely related car classes, providing prototype information, photos, and roster history. As with the gon, flat car, and boxcar series currently running in *The Keystone Modeler*, we will cover the numerous options available to you, including upgrading existing

and inexpensive plastic kits, construction of resin kits, accurate painting and lettering of brass models,

and if the need arises, kitbashing or scratchbuilding models.

### **Why "N" and "W"?**

*As will be noted, the B&O classed twin hoppers as "N" and triple and quad hoppers as "W." These obviously correspond to the AAR designations of HM and HT respectively. Unfortunately, railroad documentation describing the selection of these identifiers for the B&O's hoppers has yet to be found, so we really can't say any more about this issue at this point.*

*- John Teichmoeller*

### **The Coming of Steel (1880-1900)**

The B&O pioneered development of iron freight cars designed specifically for hauling coal; four-, six-, and eight-wheel iron bodied "pot" hoppers first placed into service in 1843. This design served the railroad well throughout the 19<sup>th</sup> century; finally evolving into Class Q-1 eight-wheel 20-ton capacity cars built 1883-1884 (and possibly as late as 1892). Unfortunately, upgrading the cars to air brakes and Janney couplers was not practical; additionally, they could not operate together with the new larger steel cars coming into service in the 1890s, and 1500 pot hoppers were retired by 1897. (Three of these cars were refurbished in 1927 for the Fair of the Iron Horse; one is on display today at the B&O Railroad Museum.) Between 1879-1898, the B&O also built ten classes of wooden hopper bottom gondola cars (Classes N through N-7). These were all-wood truss rod gons of 20-, 25-, 30-, and 40-ton capacity. The single 40-ton capacity Class N-7 car displayed features that would soon appear in earnest in the early steel cars – a self-clearing car with two "sawtooth" hopper bays with a center peak, and an increasing use of steel, in this case, bolsters from the Schoen Pressed Steel Company (forerunner to the Pressed Steel Car Company). Charles Schoen would do far more than just make car bolsters. In 1897, he designed and built introduced 600 revolutionary all-steel hopper car for Andrew Carnegie's Pittsburgh, Bessemer, and Lake Erie. These 50-ton cars with their distinctive "fishbelly" side sill had more capacity and were far more durable than the wooden cars currently in service. The design was a success, and over twelve railroads including the PRR, New York Central, and B&O bought these cars. The B&O acquired over 9000 of these cars (including 450 cars from the Pittsburgh & Western) in Class N-8 and N-9, and these cars ran in revenue service until 1927.

### **Design Refinements (1905-1926)**

Experience with the early Pressed Steel Car Company (PSC) twin hoppers showed that the cars were substantially overbuilt. To reduce tare weight, later steel hopper designs eliminated the heavy

fishbelly side sill. Between 1905 and 1926, the B&O would acquire over 23,000 cars in 4 major classes (N-10, N-12 and subclasses, N-13, and N-17), the Class N-17 cars being allocated to the B&O during USRA control during World War I. At first glance, the N-12 subclasses and N-17 appear similar, and modelers for many years considered them and any other 7-side stake/8 panel hopper as the same car. Closer examination of these prototypes reveals numerous detail and dimensional differences. In fact, closer examination of steam and transition era train photos shows not a homogenous "unit-train" appearance, but subtle variations in height and details among the cars in the train.

Classes N-8 and N-9 also exhibited significant corrosion problems, and no rebuild program for them was practical. Class N-10 introduced copper bearing steel in its construction, a corrosion resistant grade used thereafter.

The B&O also obtained three groups of Seley composite hoppers, acquiring 1,980 cars second hand from Fairmont Coal Co. and Sandy Creek Coal Co. (Class N-11), and 1,000 cars from Standard Steel Car Co. in 1918 (Class N-16). The Class N-11 cars were off the roster by 1937; the Class N-16 cars were rebuilt with sawtooth hoppers in 1927 (Class N-16a) and remained in service until 1948.

### **Early Quad Hoppers (1910-1923)**

In 1910 and 1911, B&O ordered 4,000 quad hoppers for coke service, Class W-1. Similar to PRR Class H21, these differed in many details, notably ends, end sills, some side details, trucks, and door locks. B&O coke service cars were originally placed in Class W; as coke traffic declined, many of these cars received 70-ton trucks and were placed in coal service (some cars remained rated at 50-tons); however, they stayed in Class W, which eventually came to encompass triple and quad hopper cars. 2,075 Class W-1a cars were rebuilt from Class W-1 cars in 1922-23. 249 cars were rebuilt a second time with sawtooth hoppers in 1949 (Class W-1b).

### ***B&O Gondolas in Coal Service, c. 1917***

After researching and presenting an overview of B&O hoppers at the Ohio Mini-Con in May 2006, Bob Witt discovered that the B&O also operated a significant fleet of gondolas devoted primarily to coal service. The B&O was transitioning the coal fleet from gondolas to hopper cars, but they were still ordering coal gondolas shortly before WWI. In fact, the percentage of hopper cars only exceeds that for gondolas for coal service in the late teens and early 1920s as the B&O received the last orders of the N-12 subclasses. The tables below show the principal breakdown of gons and hoppers in coal service as of 1917; approximately 40% of the B&O car fleet suitable for coal service was still comprised of gondolas. The last orders for Class N-12g almost corresponds with the mass retirement of the "coal gondolas" in the mid-1920s. (Note: Tables show the number built, not the number still operating in 1917; however, not many of these cars had been lost by 1917, so the fleet proportions are accurate.)

**Gondolas Designed for Coal Service, Built 1899-1913**

Class	Series	Builder	Built	Type	No. of Cars
O-12	37000-39999	PSC	1899	All-steel, Drop doors	3,000
O-14	40000-43999	PSC	1901	Twin hopper	4,000
O-17	136000-136999	PSC	1912-1913	Twin hopper	1,000
O-17	137000-138999	CSC	1913	Twin hopper	2,000
O-18	139000-144999	SSC CSC	1912-1913	All-steel, Drop doors	8,120
<b>Grand Total</b>					<b>18,120</b>

**Principal All-Steel Hoppers, Built 1899-1917**

Class	Series	Builder	Built	Type	No. of Cars
N-8	26000-26999	SPS	1899	All-steel	1,000
N-9	20000-23999	PSC	1901	All-steel	8,000
	120000-123999	PSC			
N-10	124000-124999	PSC	1905-06	All-steel	7,020
N-10a	125000-126999	ACF	1905-06		
N-10b	24000-24999	CSC	1910		
	127000-130019	SSC	1910		
N-12	220000-220499	SSC	1913	All-steel	4,400
N-12a	221000-221499	PSC	1913		
N-12b	220500-220999	ACF	1913		
N-12c	221500-221999	CSC	1913		
N-12d	223000-225409	ACF RSC SSC PSC GCC	1915-16		
N-13	222000-222999	CSC	1915	All-steel	9,000
	226000-228999 (Sandy Valley & Elkhorn)	ACF PSC CSC	1916		
	229000-232999	CSC PSC	1916		
	235000-235999 (235000-235499 Long Fork)	Pullman	1917		
Grand Total					29,420

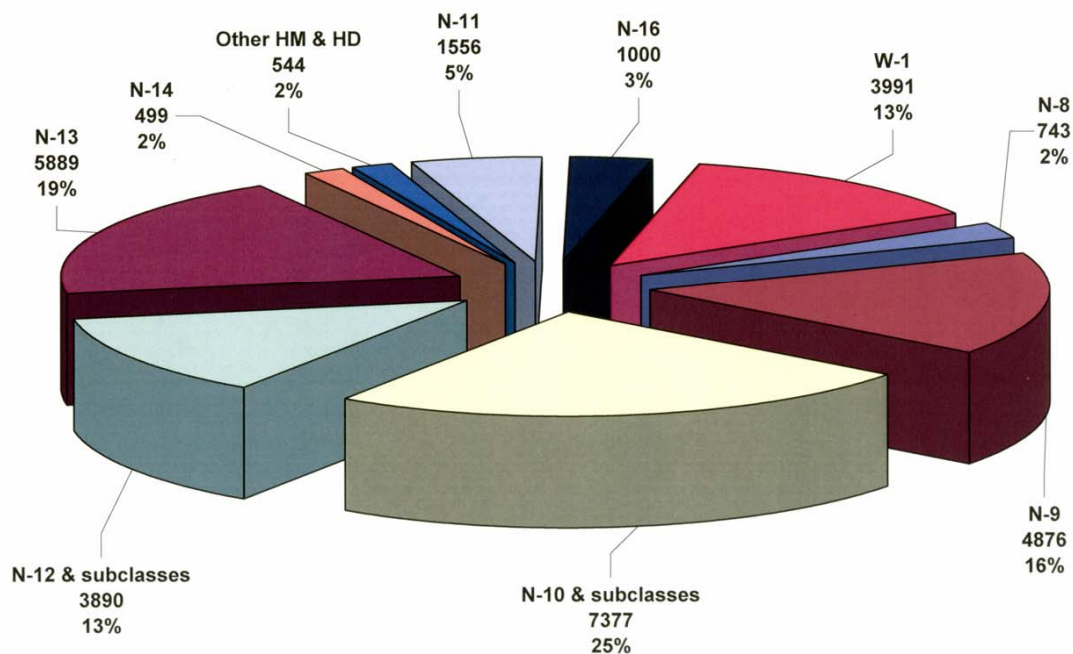
**Summary Total of All-Steel Gondolas and Hopper Cars Built 1899 to 1917**

<b>Total Hoppers Built</b>	<b>29,420</b>	<b>62%</b>
<b>Total Gondolas Built</b>	<b>18,120</b>	<b>38%</b>
<b>Total Coal Cars</b>	<b>47,540</b>	<b>100%</b>

*- Information Courtesy of Bob Witt*



**Chart 1: The B&O Open Hopper Fleet - January 1919**



#### Snapshot – January 1919

The increased traffic levels of World War I, coupled with longer train lengths facilitated by more powerful locomotives took its toll on wooden rolling stock, which was simply not durable enough to handle the increased buff and draft forces. By 1919, virtually all

wooden truss-rod hoppers had been retired, replaced by all-steel and composite designs. Ribbed twin hoppers dominated the fleet, making up over 77% of all B&O hopper cars. W-1 coke cars made up 13% of the fleet, and Seley composite hoppers made up 8%.



A string of loaded hopper cars sits at a coaling station, believed to be Sir John's Run, West Virginia, March 1924. The cars are representative of the B&O's hopper fleet in the early 1920s – the first five cars from the left of the photo are an N-12 subclass car; two N-13 side dump hoppers; an unidentified 7-side stake hopper (N-12 or N-17), and an N-11 or N-16 Seley composite hopper. B&ORHS collection.



### **Offset Quad Hoppers (1926-1929)**

In 1926, the American Railroad Association (ARA) Car Construction Committee developed a standard quad hopper design featuring offset sides which attached the side sheets to the outside of the side stakes, increasing the cubic capacity of the car over that of a comparably sized ribbed hopper. The B&O was a huge proponent of offset hoppers, and started by obtaining 7,000 offset quads in Class W-2, W-2a, and W-2b between 1926 and 1929. The 2,000 Class W-2a also introduced another signature B&O feature; they were the first B&O hopper cars with Duryea cushion underframes. Familiar to generations of model railroaders as the much-copied and much-misused HO scale Athearn quad hopper, these cars ran into the 1960s, with over 6,000 cars in revenue service at the C&O merger.

### **Consolidation (1898-1944)**

Between 1898 and 1944, the B&O acquired over 13,000 hoppers through takeover of other railroads or acquiring coal company fleets:

- Pittsburgh & Western (1898), 450 cars
- Coal & Coke Railroad (1919), 254 cars
- Morgantown & Kingwood (1923), 1,321 cars
- Buffalo, Rochester & Pittsburgh (1932), 7,501 cars
- Buffalo & Susquehanna (1932), 862 cars
- Jamison Coal & Coke Co., 1200 cars

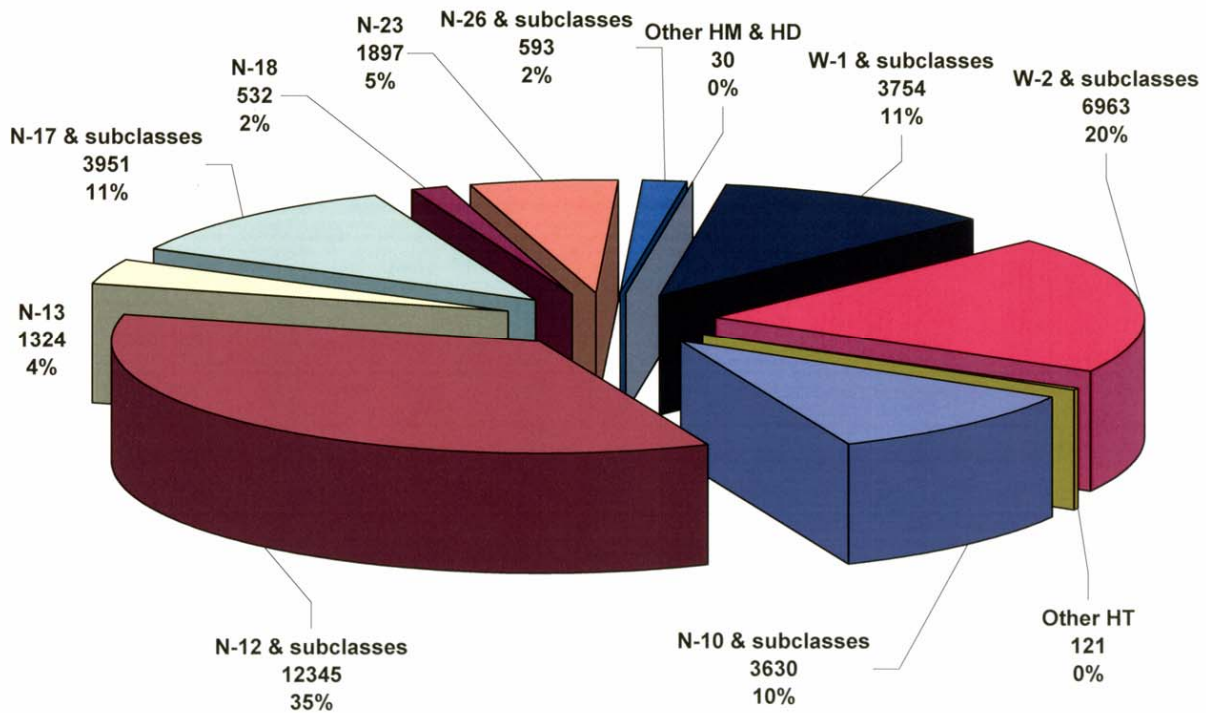
- Fairmont Coal Co. and Sandy Creek Coal Co., 1980 cars
- Hillman Coal & Coke Co., 300 cars
- Bertha Consumer, 420 cars

Some cars were retired within several years of their acquisition, but many were given B&O car classes and provided decades of service. See Tables 2 and 3 for specific class and number series information. [Editor's Note: Equipment diagrams for the ex-BR&P hopper cars were obtained too late to include information on them in this issue. We'll do an overview on these cars in a subsequent issue of The B&O Modeler.]

### **Experimental Hopper Cars (1929-1939)**

The Great Depression severely reduced new car orders, and the austere economy combined with the need to keep shops employed prompted railroads to experiment with new materials and designs that promised to reduce maintenance or promote greater operational efficiency. The B&O was no exception, and designed and evaluated six classes of experimental hoppers. New materials were tried out with Class N-28 (aluminum), N-29 and N-30 subclasses (lightweight steel alloys), and new designs were tried out with Class N-33 (fishbelly side sill), and W-4 and W-5 (slab sided hoppers with end doors). None of these designs were placed in full production; however, most of these cars stayed in service a remarkably long time, with all but the N-28 and W-4 surviving to the C&O merger.

**Chart 2: The B&O Open Hopper Fleet - January 1940**



#### **Snapshot – January 1940**

The B&O hopper fleet on the eve of American involvement in World War II largely consisted of cars built between 1913-1929. The pioneering Class N-8 and N-9 Schoen fishbelly twins and Class N-11 Seley composite hoppers had been retired and 7,000

Class W-2 subclass quads and over 6,000 Class N-12 subclass twins built in the 1920s had been added to the fleet. Additionally, over 2,500 cars from the acquisition of the BR&P and B&S remained in the fleet.



Coal east – empties west, another day on the B&O during the age of steam. Date of the photo is unknown, but probably during the 1940s based on the paint schemes on the N-12 and N-10 subclass cars in the foreground and the general lack of offset twins. Photographer unknown, B&ORHS collection.

### **Offset Twin Hoppers (1940-1960)**

Even before World War II, the railroad realized the need for new hopper cars, and acquired 2,000 Class N-35 offset twin hoppers in 1940-41. World War II steel restrictions stopped the immediate acquisition of more cars, but as soon as they were lifted, the B&O acquired offset twin hoppers with a vengeance, acquiring over 19,000 new hopper cars in Class N-35A, N-35B, N-41, and N-44 between 1944 and 1960. The N-35 subclass cars were equipped with Duryea cushion underframes. These cars made up almost half of the B&O hopper fleet by the early 1960s.

### **War Emergency Hoppers (1943-1958)**

The B&O acquired 1,025 AAR War Emergency hoppers equipped with Duryea cushion underframes from Bethlehem Steel in 1943 and 1944. These

shared the same general dimensions as the AAR standard offset design, with an inside length of 33 feet and top chord 10 feet 8 inches above the rails. The WW II War Emergency freight car designs were designed to be easily converted to all-steel cars as soon as possible, with wood components easily replaced by sheet steel. The B&O rebuilt their first cars in 1947, but did not do large-scale conversions until the mid-1950s. 780 cars were eventually rebuilt with steel sides.

In 1942 and 1943, the B&O also tried a unique experiment to deal with the steel shortages, replacing the slope sheets and sides on one Class N-10 subclass and two Class N-12 subclass steel hopper cars with wooden slope sheets and composite sides, reclassifying them Class N-10w and N-12w. No



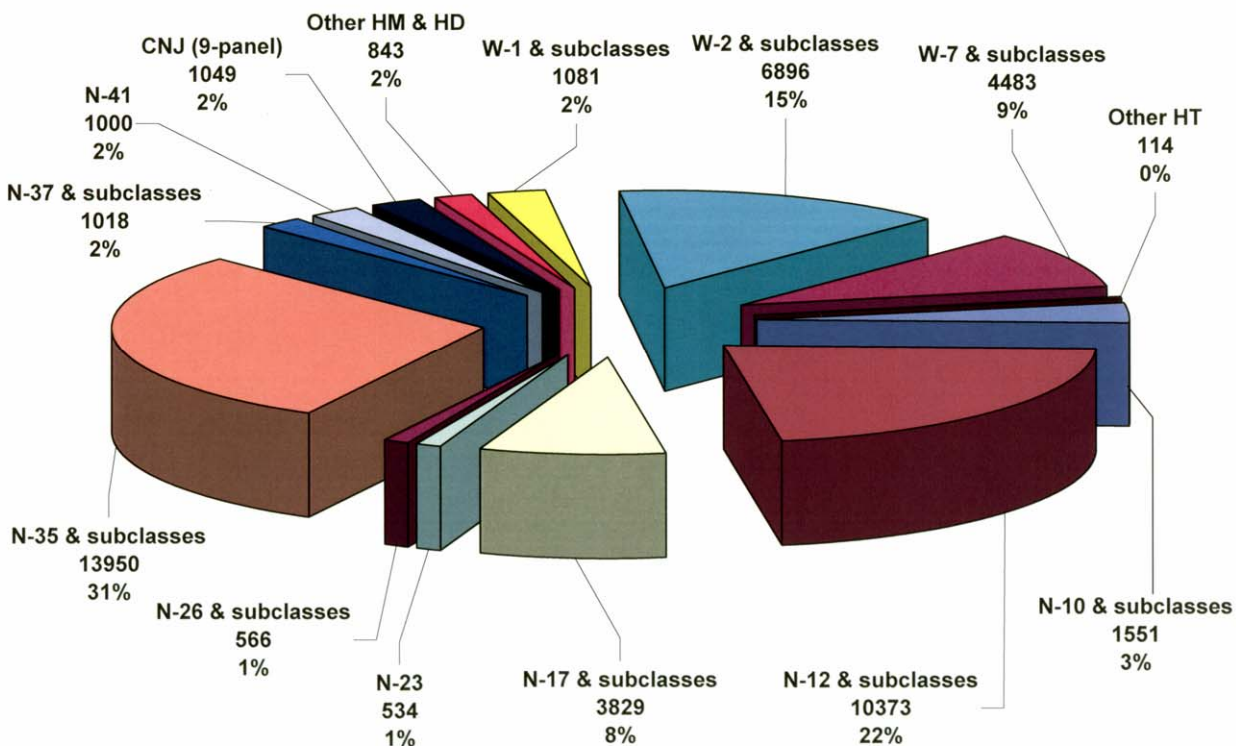
other cars were converted in this fashion during the war; however, the three cars stayed in service well after the war ended, retiring in the late 1950s.

### Offset Triple Hoppers (1947-1964)

In addition to the large numbers of offset twins, the B&O acquired 8,000 cars between 1947 and 1958 built to the 1935 AAR standard offset triple design in Class W-7, W-7a, W-7b, W-8, and W-9. These were 70-ton cars equipped with Duryea cushion underframes, and the B&O would have more hoppers built to this design than any other railroad. In fact, the B&O would build new offset hoppers after this

design fell out of favor with most other railroads, increasing the dimensions and capacity of the design to produce the last B&O hopper design before the C&O takeover, the Class W-10 90-ton unit train hoppers. Assembled at the B&O's Dubois Shops, these would be placed in service in 1964. (Placing the side stakes on the inside of the car exposed them to corrosion caused by coal and water, and over time, the side sheets tended to pull away from the side stakes. Several railroads, including the C&O rebuilt offset hoppers into rib side hoppers in the late 1950s and early 1960s.)

**Chart 3: The B&O Open Hopper Fleet - January 1952**



### Snapshot – January 1952

The extraordinary contribution American railroads made towards victory in World War II came at a steep price. Record traffic levels coupled with severe limitations on new rolling stock forced the railroads to keep older cars in service and defer all but the most critical maintenance across the entire fleet. By

1944, huge numbers of obsolescent or worn-out freight cars needed replacement. Analysis of the B&O hopper fleet in 1952 shows that many Class N-10 and W-1 subclass cars were being retired; the large numbers of new offset twin and triple hoppers dominated the roster, making up over 40% of the fleet.



B&O 7157 (Class EL-5a) leads a long train of loaded hoppers east of M&K Junction on May 10, 1949. The influx of offset hoppers after World War II is especially evident in this photo. Bob's Photos collection.

### **Leased and Secondhand Hopper Cars (1944-1963)**

Even though the B&O acquired large numbers of new hopper cars, the railroad was chronically short of cars. In an attempt to alleviate this, the railroad leased cars from a number of sources:

- Norfolk & Western, 1880+ Class H-3 triple hoppers, 1944-1948
- Boston & Maine, 100 offset quad hoppers, 1950-1954
- Central Railroad of New Jersey, 1947-1955 and 1955-1962 (see Tables 2 and 2A for details)
- Lake Terminal, 28 cars, 1963

Additionally, the railroad acquired secondhand cars from the following railroads:

- Chicago & Eastern Illinois, 290 cars, 1961 (Class W-11)
- Lehigh Valley, 12 cars for wood chip service [Class W-3 (2<sup>nd</sup>)]

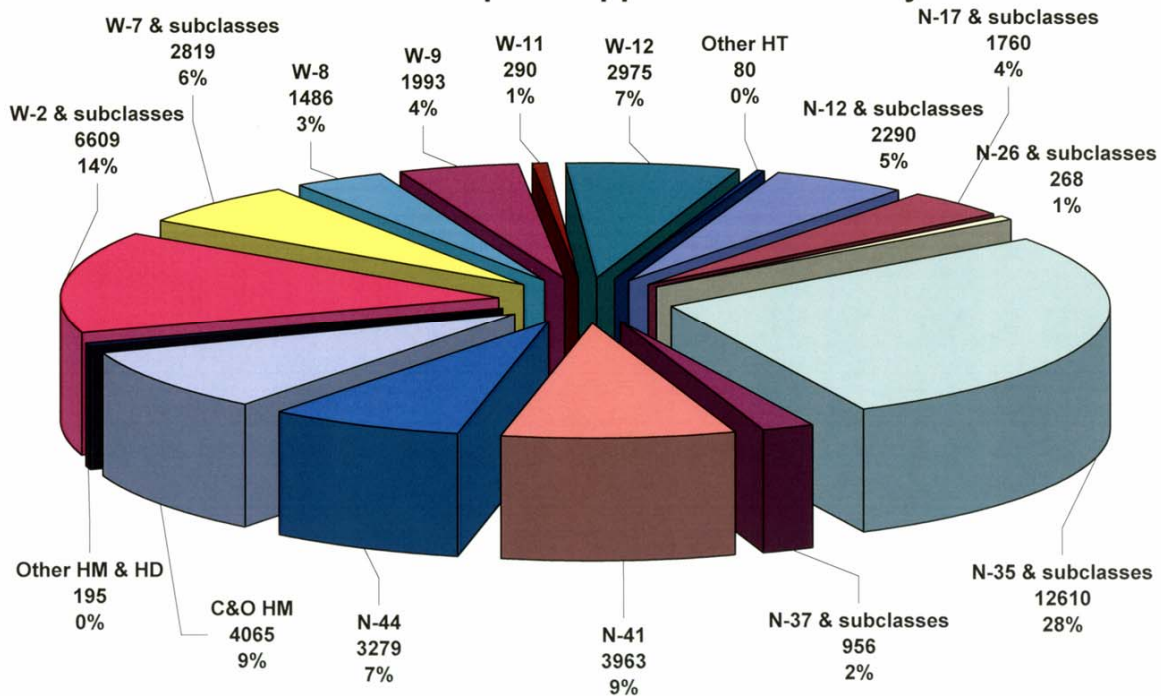
- Lehigh and New England, 484 cars, 1963 (Class N-41a)

### **C&O Takeover (1960-1963)**

Despite these efforts, car availability worsened, aggravated by the worsening financial condition of the railroad. In testimony before the Interstate Commerce Commission in support of proposed C&O control, B&O Vice President C. E. Bertrand said that at year end 1960, 22,037 cars were bad ordered out of 86,160 owned (25.6%) and that many of the serviceable cars had reached the end of their service lives. (According to Tim Gilbert, the ICC's Monthly Operating Statistics of Large Steam Railroads quoted 18.2%; either figure was still very high compared to the national average of 7.7%).

To protect its investment in the B&O (the C&O started acquiring large blocks of B&O stock in 1960), the C&O in 1961 and 1962 transferred over 4,000 twin and nearly 3,000 triple hoppers to the B&O via lease or trade for unserviceable B&O cars, which were then rebuilt in C&O shops. On February 4, 1963, the C&O took full control of the B&O.

**Chart 4: The B&O Open Hopper Fleet - January 1962**



#### **Snapshot - 1962**

The 1962 B&O hopper fleet was a mixed bag of pre-World War II hopper cars running out their final

miles, large numbers of B&O offset twins and triples, secondhand and leased cars, and a growing number of cars from new parent C&O.

#### **Notes on Using the Prototype Tables**

Tables 1, 2, 2A, and 3 provide a prototype summary of the B&O hopper fleet between 1919 and 1963.

- Table 1 is a number series to car class cross-reference. The B&O's car class system makes the researcher's job easier; unfortunately, the railroad did not list the car classes with number series in the ORER. This table is intended to do just that, and will make pulling information from the following tables easier.
- Tables 2 and 3 respectively list N and W class hoppers by class, with secondhand cars and leased cars that were not included in the B&O class system listed at the end of each table. The prototype description concentrates on points of comparison useful to modelers – the inside length of the car (IL), the height of the top chord above the rails, the number of side stakes, and any other information of interest.
- Table 2A details the 1955-1962 CNJ hopper leases. Five different types of CNJ hoppers were involved, requiring a supplemental table.

Car Builders Abbreviations			
ACF	American Car & Foundry	Koppel	Koppel Car Co.
B&O	B&O Company Shops	LV	Lehigh Valley Co. Shops
BC&F	Baltimore Car & Foundry	N&W	N&W Company Shops
BSC	Bethlehem Steel Co.	P-S	Pullman-Standard
C&O	C&O Company Shops	PSC	Pressed Steel Car Co.
Canton	Canton Car Co.	Pullman	Pullman Co.
CSC	Cambria Steel Co.	RDG	Reading Company Shops
GATC	General American Transportation Co.	RSC	Ralston Steel Car Co.
GCC	Greenville Car Co.	SSC	Standard Steel Car Co.
H&B	Haskell & Barker	SPS	Schoen Pressed Steel Co.



**Table 1: BALTIMORE & OHIO HOPPERS 1919-1963**  
**Cross Reference – Car Number to Car Class**

<b>Car Numbers</b>	<b>Class</b>	<b>Car Numbers</b>	<b>Class</b>	<b>Car Numbers</b>	<b>Class</b>
2000-2099	BM	124000-124999	N-10	425000-425999	N-12k
5000	C&C	125000-126999	N-10a	426000-426299	N-17a
3000-4499	N&W (H-3)	127000-130019	N-10b	427000-428999	N-35
3000-4559	CNJ	129000-135496	N-50	429000-429999	N-35a
4000-4999	M&K	130020-131999	N-11	430000-431999	W-2b
5000-5459	CNJ	132000-135999	W-1	432000-433999	W-2
5002-5300	C&C	220000-220499	N-12	434000-434999	W-2a
5460-5534	CNJ	220500-220999	N-12b	435000-435999	W-7
5535-6534	CNJ	221000-221499	N-12a	520000-527292	N-10f
10000-15249	W-13	221500-221999	N-12c	532000-533999	W-2a
20000-23999	N-9	222000-222999	N-13	534000-534999	N-35a
20000-20382	N-21	223000-225409	N-12d	620000	W-4
20000-20040	N-38	225500-225799	N-12j	620500	W-5
20383-20405	N-21a	226000-232999	N-13	621000-622499	W-7a
20406-20451	N-22	233000-233081	N-24	623000-624999	W-7b
20452	N-22a	233000-233499	N-14	625000	W-5
20500-20799	N-39	233100-233496	N-26	625000-626499	W-8
21000-22024	N-37a	233500-233699	N-26a	627000-629000	W-10
23100-23149	LT	233500-233799	N-15	631000	N-28
24000-24999	N-10b	233800-234199	N-10d	632000	N-29
25000		234200-234248	N-20	633000	N-30
25550-25599	P&W	234700-234883	N-27	633001-633003	N-30a
26000-26001	N-12w	235000-235999	N-13	634000	N-33
26000-26999	N-8	320000-321899	N-17	636000-640999	N-35a
27000	N-10w	322000-323414	N-12e	720004-725396	N-23
27000-27999	N-16	323420-323439	N-19	726000-726798	N-17b
28000-28999	N-16a	323451-323999	N-18	727000-730299	N-44
29000	N-16b	324000-324999	N-17	732000-732499	N-35c
30000-30254	N-11	325000-325999	N-10e	733000-733199	N-37b
30000-31024	N-37	326000-326999	N-12f	734000-735999	W-9
50000-52999	C&O	327000-331999	N-12g	819900-819911	W-3 (2nd)
91000-94999	W-12	332000-334999	W-1a	820000-823999	N-35a
96000-97999	W-12	335000-335119	W-3 (1 <sup>st</sup> )	824000-824999	N-35b
98000-98999	W-12	335500-335749	W-1b/ba	825000-828999	N-41
99000-99499	W-12	420000-420499	N-12g	829000-829289	W-11/a/b
118000-123999	C&O	420500-424879	N-12h	829300-829783	N-41a
120000-123999	N-9				

**Table 2: BALTIMORE & OHIO HOPPERS 1919-1963**  
**CLASS N HOPPER CARS**

Class	Car Numbers	Built (Acquired) [Rebuilt]	Builder	No. Built or Acquired	1919	1928	1932	1936	1940	1944	1948	1952	1954	1956	1958	1962	Description/Construction
N-8	26000-26999	1899	SPS	1000	743	0	0	0	0	0	0	0	0	0	0	0	30' IL steel hopper, fishbelly side sill, 40-t, top chord 10' 2" above rails, 9 side stakes, off roster in 1927
N-9	20000-23999	1899	PSC	4000	2924	0	0	0	0	0	0	0	0	0	0	0	30' IL steel hopper, fishbelly side sill, 50-t, top chord 10' 7" above rails, 9 side stakes, off roster in 1927
N-9	120000-123999	1899	PSC	4000	1952	0	0	0	0	0	0	0	0	0	0	0	
<b>Total N-9</b>				<b>8000</b>	<b>4876</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
N-10	124000-124999	1905-06	PSC	1000	992	793	767	742	500	490	421	100	17	4	4	6	31' 6" IL steel hopper, 50-t, top chord 10' 8" above rails, 9 side stakes
N-10a	125000-126999	1905-06	ACF	2000	1983	1606	1550	1481	1010	996	858	199	31	13	8		31' 6" IL steel hopper, 50-t, top chord 10' 8" above rails, 9 side stakes
N-10b	24000-24999	1910	CSC	1000	998	303	49	43	20	20	15	3	1	1	1	1	31' 6" IL steel hopper, 50-t, top chord 10' 8" above rails, 9 side stakes; B&O 24635, 128694, 128835 last cars in service
N-10b	127000-130019	1910	SSC	3020	3005	753	264	250	102	102	88	16	2	2	2	2	
<b>Total N-10b</b>				<b>4020</b>	<b>4003</b>	<b>1056</b>	<b>313</b>	<b>293</b>	<b>122</b>	<b>122</b>	<b>103</b>	<b>19</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	
N-10d	233800-234199	1911	SSC	400	399	79	42	41	16	16	13	2	0	0	0	0	ex-Jamison Coal & Coke 1300-1699; 31' 6" IL steel hopper, 50-t, top chord 10' 8" above rails, 9 side stakes, off roster in 1953; converted to Classes N-10E, N-10F
N-10e	325000-325499	1922	SSC	500	0	997	996	993	991	987	977	790	426	146	54	11	31' 6" IL steel hopper, 50-t, top chord 10' 8" above rails, 9 side stakes; some converted from Class N-10D
N-10e	325500-325999	1922	PSC	500													
N-10f	520000-527292	1905-06 1910 1911 [1925]	Various [B&O]	1000	0	1000	998	995	991	984	910	441	94	17	6	2	Rebuilt from Classes N-10, N-10A, N-10B, and N-10D; 31' 6" IL steel hopper, 50-t, top chord 10' 8" above rails, 9 side stakes
N-10w	27000	1905 [1942]	[B&O]	1	0	0	0	0	0	1	1	1	1	1	1	0	Converted from N-10 subclass car by applying wood floor and sides; 31' 6" IL composite hopper, 50-t, top chord 10' 8" above rails

Class	Car Numbers	Built (Acquired) [Rebuilt]	Builder	No. Built or Acquired	1919	1928	1932	1936	1940	1944	1948	1952	1954	1956	1958	1962	Description/Construction
N-11	30000-30254	1907	BC&F		0	208	26	0	0	0	0	0	0	0	0	0	130020-131699 ex-Fairmont Coal Co. 3000-4699, 131700-131799 ex-Sandy Creek Coal Co. 131700-131799; 30' 11" IL Seley composite triple hopper, 50-t. top chord 10' 6" above rails; B&O 131078 last car in service, off roster in 1937
N-11	130020-131999	1906-1907	BC&F		1556	1254	204	1	0	0	0	0	0	0	0	0	
<b>Total N-11</b>				<b>1980</b>	<b>1556</b>	<b>1462</b>	<b>230</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>N-12</b>	220000-220499	1913	SSC	<b>500</b>	<b>498</b>	<b>49</b>	<b>29</b>	<b>27</b>	<b>22</b>	<b>22</b>	<b>21</b>	<b>11</b>	<b>7</b>	<b>5</b>	<b>4</b>	<b>4</b>	30' IL steel hopper, 50-t, top chord 10' 6" above rails, 7 side stakes
<b>N-12a</b>	221000-221499	1913	PSC	<b>500</b>	<b>499</b>	<b>58</b>	<b>34</b>	<b>32</b>	<b>25</b>	<b>25</b>	<b>22</b>	<b>19</b>	<b>12</b>	<b>9</b>	<b>6</b>		30' IL steel hopper, 50-t, top chord 10' 6" above rails, 7 side stakes
<b>N-12b</b>	220500-220999	1913	ACF	<b>500</b>	<b>499</b>	<b>82</b>	<b>41</b>	<b>34</b>	<b>25</b>	<b>25</b>	<b>20</b>	<b>11</b>	<b>6</b>	<b>5</b>	<b>3</b>		30' IL steel hopper, 50-t, top chord 10' 6" above rails, 7 side stakes; B&O 220874 last car in service
<b>N-12c</b>	221500-221999	1913	CSC	<b>500</b>	<b>500</b>	<b>72</b>	<b>29</b>	<b>28</b>	<b>22</b>	<b>21</b>	<b>18</b>	<b>9</b>	<b>3</b>	<b>2</b>	<b>1</b>		30' IL steel hopper, 50-t, top chord 10' 6" above rails, 7 side stakes; B&O 221862 last car in service
N-12d	223000-223199	1915	ACF	2400	2393	2325	2307	2265	2178	2145	1901	1285	878	499	425	129	30' IL steel hopper, 50-t, top chord 10' 6" above rails, 7 side stakes
N-12d	223810-224009	1915	ACF														
N-12d	224210-224409	1916	ACF														
N-12d	223200-223399	1915	RSC														
N-12d	223400-223599	1915	SSC														
N-12d	223610-223809	1915	RSC														
N-12d	224010-224209	1915	SSC														
N-12d	224410-224709	1916	PSC														
N-12d	224710-225209	1915-16	SSC														
N-12d	225210-225409	1916	GCC														
<b>Total N-12d</b>				<b>2400</b>	<b>2393</b>	<b>2325</b>	<b>2307</b>	<b>2265</b>	<b>2178</b>	<b>2145</b>	<b>1901</b>	<b>1285</b>	<b>878</b>	<b>499</b>	<b>425</b>	<b>129</b>	
<b>N-12e</b>	322000-323414	1921	PSC	<b>1415</b>	<b>0</b>	<b>1407</b>	<b>1396</b>	<b>1393</b>	<b>1382</b>	<b>1378</b>	<b>1293</b>	<b>979</b>	<b>832</b>	<b>774</b>	<b>597</b>	<b>235</b>	30' IL steel hopper, 50-t, top chord 10' 6" above rails, 7 side stakes
N-12f	326000-326499	1922	BC&F	500	0	999	995	993	986	980	966	861	728	676	505	171	30' IL steel hopper, 50-t, top chord 10' 6" above rails, 7 side stakes
N-12f	326500-326999	1922	CSC	500													
<b>Total N-12f</b>				<b>1000</b>	<b>0</b>	<b>999</b>	<b>995</b>	<b>993</b>	<b>986</b>	<b>980</b>	<b>966</b>	<b>861</b>	<b>728</b>	<b>676</b>	<b>505</b>	<b>171</b>	



Class	Car Numbers	Built (Acquired) [Rebuilt]	Builder	No. Built or Acquired	1919	1928	1932	1936	1940	1944	1948	1952	1954	1956	1958	1962	Description/Construction
N-12g	327000-327999	1923	ACF	5000	0	4988	4980	4956	4932	4910	4878	4706	4552	4466	3572	1236	30' IL steel hopper, 50-t, top chord 10' 6" above rails, 7 side stakes, XLT peaked end extensions on B&O 420000-420499
N-12g	328000-329499	1923	PSC														
N-12g	329500-329999	1923	SSC														
N-12g	330000-330999	1923	ACF														
N-12g	331000-331499	1923	RSC														
N-12g	331500-331749	1923	SSC														
N-12g	331750-331999	1923	PSC														
N-12g	420000-420499	1924	PSC	500	0	499	498	497	496	494	490	476	458	451	362	116	
<b>Total N-12g</b>				<b>5500</b>	<b>0</b>	<b>5487</b>	<b>5478</b>	<b>5453</b>	<b>5428</b>	<b>5404</b>	<b>5368</b>	<b>5182</b>	<b>5010</b>	<b>4917</b>	<b>3934</b>	<b>1352</b>	
<b>N-12h</b>	420500-424879	1913 [1925]	Various [B&O]	<b>1000</b>	<b>0</b>	<b>997</b>	<b>991</b>	<b>988</b>	<b>984</b>	<b>973</b>	<b>935</b>	<b>795</b>	<b>562</b>	<b>376</b>	<b>300</b>	<b>87</b>	Rebuilt from Classes N-12, N-12A, N-12B, N-12C, and N-12D; 30' IL steel hopper, 50-t, top chord 10' 6" above rails, 7 side stakes
<b>N-12j</b>	225500-225799	1923	SSC	<b>300</b>	<b>0</b>	<b>299</b>	<b>298</b>	<b>298</b>	<b>298</b>	<b>297</b>	<b>295</b>	<b>262</b>	<b>210</b>	<b>183</b>	<b>149</b>	<b>55</b>	ex-Hillman Coal & Coke 5001-5300; 30' IL steel hopper, 50-t, top chord 10' 6" above rails, 7 side stakes
<b>N-12k</b>	425000-425999	1925	BC&F	<b>1000</b>	<b>0</b>	<b>1000</b>	<b>997</b>	<b>996</b>	<b>995</b>	<b>998</b>	<b>982</b>	<b>959</b>	<b>928</b>	<b>920</b>	<b>793</b>	<b>257</b>	30' IL steel hopper, 50-t, top chord 10' 6" above rails, 7 side stakes
N-12w	26000	1922 [1942]	BC&F	1	0	0	0	0	0	1	1	1	1	1	1	0	B&O 26000 converted from N-12F 12-42, B&O 216001 converted from N-12G 3-43 by applying wood sides and floors; 30' IL composite hopper, 50-t, top chord 10' 6" above rails
N-12w	26001	1923 [1943]	ACF	1	0	0	0	0	0	1	1	1	1	1	1	0	
<b>Total N-12w</b>				<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>0</b>	
N-13	222000-222999	1915	CSC	1000	999	984	977	951	242	226	102	9	5	5	4	3	31' IL steel side-dump hopper, 50-t, top chord 10' 8" above rails, 7 side stakes; 226000-228999 assigned to Sandy Valley & Elkhorn, 55-t, 2990 cars in 1922, off roster in 1924; 235000-235499 assigned to Long Fork
N-13	226000-228999	1916	ACF PSC CSC	7000	6991	0	0	0	0	0	0	0	0	0	0	0	
N-13	229000-229999	1916	CSC			981	972	905	913	884	370	29	9	0	0	0	
N-13	230000-232999	1916	PSC			2939	2922	2824						0	0	0	
N-13	235000-235999	1917	Pullman	1000	1000	985	980	955	169	158	60	5	1	0	0	0	
<b>Total N-13</b>				<b>9000</b>	<b>8990</b>	<b>5889</b>	<b>5851</b>	<b>5635</b>	<b>1324</b>	<b>1268</b>	<b>532</b>	<b>43</b>	<b>15</b>	<b>5</b>	<b>4</b>	<b>3</b>	

Class	Car Numbers	Built (Acquired) [Rebuilt]	Builder	No. Built or Acquired	1919	1928	1932	1936	1940	1944	1948	1952	1954	1956	1958	1962	Description/Construction
N-14	233000-233499	1904 (1917)	SSC	500	499	13	0	0	0	0	0	0	0	0	0	0	ex-Jamison Coke & Coal Co. 101-600; 30' IL steel hopper, 50-t, top chord 10' above rails, 9 alternating pressed steel/channel side stakes, off roster in 1930
N-15	233500-233799	1905 (1917)	SSC	300	289	13	1	0	0	0	0	0	0	0	0	0	ex-Jamison Coke & Coal Co. 601-900; 30' 5" IL steel hopper, 50-t, top chord 10' above rails, 7 side stakes; B&O 233770 last car in service, off roster in 1934
N-16	27000-27999	1918	SSC	1000	1000	261	0	0	0	0	0	0	0	0	0	0	31' 4" IL Seley composite triple hopper, 55-t, top chord 10' 8" above rails, off roster in 1930
N-16a	28000-28999	1918 [1927]	SSC [B&O]	989	0	732	989	989	10	9	0	0	0	0	0	0	Converted from Class N-16; 31' 4" IL Seley composite triple hopper, 50-t, top chord 10' 8" above rails; B&O 28185 last car in service, off roster in 1948
N-16b	29000	1918 [1937]	SSC [B&O]	1	0	0	0	0	1	1	1	1	0	0	0	0	Converted from Class N-16A; 31' 4" IL steel triple hopper, 50-t, top chord 10' 8" above rails, off roster in 1953
N-17	320000-320999	1919	RSC	1000	NEW	998	996	992	990	984	1853	1812	1761	1749	1604	808	USRA steel twin hopper; 30' 6" IL steel hopper, 50-t, top chord 10' 8" above rails, 7 side stakes; B&O 324000-324999 ex-Morgantown & Kingwood 4000-4999
N-17	321000-321499	1919	PSC	500	NEW	598	596	595	593	591							
N-17	321500-321599	1919	RSC	100													
N-17	321600-321899	1919	ACF	300	NEW	299	295	294	293	293							
N-17	324000-324999	1919 (1923)	RSC SSC	1000	0	995	992	988	985	984	973	950	923	915	838	425	
Total N-17				2900	0	2890	2879	2869	2861	2852	2826	2762	2684	2664	2442	1233	
N-17a	426000-426299	1923	PSC	300	0	300	300	297	296	296	293	286	280	279	244	126	ex-Bertha Consumer, BERX 1-300; 30' 6" IL steel hopper, 50-t, top chord 10' 9" above rails, 7 side stakes
N-17b	726000-726798	1918 (1932)	PSC Pullman	800	0	0	0	798	798	794	787	781	758	755	692	401	ex-BR&P 55000-55799; USRA steel twin hopper, 30' 6" IL steel hopper, 50-t, top chord 10' 8" above rails, 7 side stakes

Class	Car Numbers	Built (Acquired) [Rebuilt]	Builder	No. Built or Acquired	1919	1928	1932	1936	1940	1944	1948	1952	1954	1956	1958	1962	Description/Construction
N-18	323451-323818	1912 (1919)	CSC	549	NEW	540	533	532	532	527	495	324	166	76	56	14	Obtained from Bethlehem Steel Co.; 30' IL steel hopper, 50-t, top chord 10' 5" above rails, 7 side stakes
N-18	323819-323999	1914 (1919)	PSC														
N-19	323420-323439	1905 (1923)	CSC	549	0	0	0	0	0	0	0	0	0	0	0	0	ex-Morgantown & Kingwood 3000-3019; 30' IL steel hopper, 50-t, top chord 10' 8" above rails, 9 side stakes plus 2 diagonals in center panels; 549 cars in 1922, 9 cars in 1923, off roster in 1926
N-20	234200-234248	1916	H&B	49	0	44	35	27	4	4	3	0	0	0	0	0	ex-CI&W 801-850; 30' IL steel hopper, 50-t, top chord 10' 5" above rails, 7 side stakes
N-21	20000-20382	(1932)		382	0	0	NEW	0	0	0	0	0	0	0	0	0	ex-BR&P; 30' 6" IL wood hopper with steel centersills, 40-t, top chord 9' 1" above rails; 382 cars in 1933, 20 cars in 1934, 4 cars in 1935, off roster in 1936
N-21a	20383-20405	(1932)		23	0	0	NEW	0	0	0	0	0	0	0	0	0	ex-BR&P; 30' 6" IL wood hopper with steel centersills, 40-t, top chord 9' 1" above rails; 23 cars in 1933, 4 cars in 1934, 2 cars in 1935, off roster in 1936
N-22	20406-20451	(1932)		45	0	0	NEW	0	0	0	0	0	0	0	0	0	ex-BR&P; 28' 6" IL wood hopper with steel centersills, 40-t, top chord 9' 1" above rails; 45 cars in 1933, 4 cars in 1934, off roster in 1935
N-22a	20452	(1932)		1	0	0	NEW	0	0	0	0	0	0	0	0	0	ex-BR&P; 30' 6" IL wood hopper with steel centersills, 40-t, top chord 9' 1" above rails; off roster in 1935



Class	Car Numbers	Built (Acquired) [Rebuilt]	Builder	No. Built or Acquired	1919	1928	1932	1936	1940	1944	1948	1952	1954	1956	1958	1962	Description/Construction
N-23	720004-720380	1907 (1932)	SSC	500	0	0	NEW	3473	1897	1856	1446	534	195	48	29	5	ex-BR&P 40000-46249; 30' IL steel hopper, 50-t, top chord 10' above rails, 7 side stakes
N-23	720381-720743	1907 (1932)	ACF	500													
N-23	720745-721126	1908 (1932)	SSC	500													
N-23	721127-721306	1908 (1932)	ACF	250													
N-23	721309-722078	1909 (1932)	CSC	1000													
N-23	722080-722507	1912 (1932)	PSC	500													
N-23	722512-722928	1912 (1932)	SSC	500													
N-23	722931-723422	1911-12 (1932)	CSC	500													
N-23	723423-724412	1912-13 (1932)	CSC	1000													
N-23	724414-725396	1914 (1932)	CSC	1000													
<b>Total N-23</b>				<b>6250</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3473</b>	<b>1897</b>	<b>1856</b>	<b>1446</b>	<b>534</b>	<b>195</b>	<b>48</b>	<b>29</b>	<b>5</b>	
<b>N-24</b>	233000-233081	(1932)		<b>81</b>	<b>0</b>	<b>0</b>	<b>NEW</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	ex-B&S; 40' 5" IL steel hopper, 50-t, top chord 12' above rails; 81 cars in 1933, 18 cars in 1934, 1 car in 1935, off roster in 1936, B&O 233057 last car in service
<b>N-26</b>	233100-233496	1923 (1932)		<b>397</b>	<b>0</b>	<b>0</b>	<b>NEW</b>	<b>395</b>	<b>394</b>	<b>392</b>	<b>390</b>	<b>368</b>	<b>361</b>	<b>359</b>	<b>324</b>	<b>167</b>	ex-B&S; 30' 6" IL steel hopper, 50-t, top chord 10' 9" above rails, 7 side stakes
<b>N-26a</b>	233500-233699	1929 (1932)		<b>200</b>	<b>0</b>	<b>0</b>	<b>NEW</b>	<b>200</b>	<b>199</b>	<b>199</b>	<b>199</b>	<b>198</b>	<b>195</b>	<b>195</b>	<b>168</b>	<b>101</b>	ex-B&S; 30' 6" IL steel hopper, 50-t, top chord 10' 9" above rails, 7 side stakes
<b>N-27</b>	234700-234883	1907 (1932)		<b>184</b>	<b>0</b>	<b>0</b>	<b>NEW</b>	<b>135</b>	<b>18</b>	<b>18</b>	<b>8</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	ex-B&S; 30' IL steel hopper, 50-t, top chord 10' above rails; B&O 234752 last car in service, off roster in 1956

Class	Car Numbers	Built (Acquired) [Rebuilt]	Builder	No. Built or Acquired	1919	1928	1932	1936	1940	1944	1948	1952	1954	1956	1958	1962	Description/Construction
N-28	631000	1934	B&O Mt Clare	1	0	0	0	1	1	1	1	1	1	1	0	0	35' IL aluminum offset hopper, 50-t, top chord 10' 8" above rails, off roster in 1958
N-29	632000	1934	B&O Mt Clare	1	0	0	0	1	1	1	1	1	1	1	1	1	34' 11" IL high-tensile steel offset hopper, 50-t, top chord 10' 8" above rails, Duryea cushion underframe, corrugated sides
N-30	633000	1934	B&O Mt Clare	1	0	0	0	1	1	1	1	1	1	1	1	1	32' 2" IL high-tensile steel offset hopper, 50-t, top chord 10' 8" above rails, Duryea cushion underframe, corrugated sides
N-30a	633001-633003	1935	B&O Mt Clare	3	0	0	0	3	3	3	3	3	3	3	3	3	32' 2" IL high-tensile steel offset hopper, 50-t, top chord 10' 8" above rails, Duryea cushion underframe, corrugated sides
N-33	634000	1939	B&O Mt Clare	1	0	0	0	0	1	1	1	1	1	1	1	1	29' IL "fishbelly" steel hopper, 40-t, top chord 10' 6" above rails, 7 side stakes; builder's photo shows car equipped with two axles; clearance diagram shows car equipped with two 4-wheel trucks in accordance with North American practice
N-35	427000-427999	1940	BSC	1000	0	0	0	0	NEW	1000	1997	1992	1986	1981	1474	1436	33 ft IL steel offset hopper, 50-t, top chord 10' 8" above rails, Duryea cushion underframe
N-35	428000-428999	1941	GATC	1000	0	0	0	0	0	1000							
Total N-35				2000	0	0	0	0	0	2000							
N-35a	429000-429999	1944	BSC	1000	0	0	0	0	0	NEW	1000	996	995	992	989	970	33 ft IL steel offset hopper, 50-t, top chord 10' 8" above rails, Duryea cushion underframe; B&O 534000-534999 originally Class N-35, changed to N-35A in 1947
N-35a	534000-534999	1945	BSC	1000	0	0	0	0	0	0	1000	994	993	987	983	462	
N-35a	636000-636499	1946	PSC	500	0	0	0	0	0	0	1999	1989	1986	1981	1976	1912	
N-35a	636500-636999	1946	RSC	500													
N-35a	637000-637999	1946	BSC	1000													
N-35a	638000-638999	1947	P-S	1000	0	0	0	0	0	0	3000	2994	2989	2985	2972	2739	
N-35a	639000-639999	1947	BSC	1000													
N-35a	640000-640999	1947	BSC	1000													
N-35a	820000-821999	1947	BSC	2000	0	0	0	0	0	0	3152	3987	3980	3971	3952	4596	
N-35a	822000-822999	1948	ACF	1000													
N-35a	823000-823499	1947	PSC	500													
N-35a	823500-823999	1947	RSC	500													
Total N-35a				11000	0	0	0	0	0	0	10151	10960	10943	10916	10872		

Class	Car Numbers	Built (Acquired) [Rebuilt]	Builder	No. Built or Acquired	1919	1928	1932	1936	1940	1944	1948	1952	1954	1956	1958		Description/Construction
N-35b	824000-824999	1947	BSC	1000	0	0	0	0	0	0	214	998	997	997	995		33 ft IL steel offset hopper, 50-t, top chord 10' 8" above rails, Duryea cushion underframe
N-35c	732000-732499	1940 [1957]	BSC	500	0	0	0	0	0	0	0	0	0	0	500	495	Converted from Class N-35; 33 ft IL steel offset hopper, 50-t, top chord 10' 8" above rails, Duryea cushion underframe
N-37	30000-31024	1943-1944	BSC	1025	0	0	0	0	0	814	1023	1012	1009	594	315	226	33 ft IL War Emergency composite hopper, 50-t, top chord 10' 9" above rails, Duryea cushion underframe
N-37a	21000-22024	1943-1944 [1947-58]	BSC [B&O]	580	0	0	0	0	0	0	2	6	6	420	580	533	Rebuilt from Class N-37. 33 ft IL steel hopper, 50-t, top chord 10' 9" above rails, Duryea cushion underframe
N-37b	733000-733199	1943 [1957]	BSC [B&O]	200	0	0	0	0	0	0	0	0	0	0	116	197	Rebuilt from Class N-37, 33 ft IL steel hopper, 50-t, top chord 10' 9" above rails, Duryea cushion underframe
N-38	20000-20040	1911-14 (1944)	PSC	41	0	0	0	0	0	NEW	42	23	9	2	2	0	ex-BC&G 1026-1489; 30' 5" IL steel hopper, 50-t, top chord 10' above rails, 7 side stakes; B&O 20013 and 20024 last cars in service.
N-39	20500-20799	1923 (1944)	ACF	300	0	0	0	0	0	NEW	283	279	260	155	67	13	ex-BC&G 1601-1900; 30' IL steel hopper, 50-t, top chord 10' 6" above rails, 7 side stakes
N-41	825000-825999	1951	ACF	1000	0	0	0	0	0	0	0	1000	3999	3996	3993	3963	33' IL steel offset hopper, 50- t, top chord 10' 8" above rails
N-41	826000-826999	1953	GATC	1000	0	0	0	0	0								
N-41	827000-827999	1952	BSC	1000	0	0	0	0	0								
N-41	828000-828999	1952	P-S	1000	0	0	0	0	0								
Total N-41				4000	0	0	0	0	0	0	0	1000	3999	3996	3993	3963	
N-41a	829300-829783	1951 (1963)	ACF	484	0	0	0	0	0	0	0	0	0	0	0	484 (1963)	ex-LNE; 33' IL steel offset hopper, 50- t, top chord 10' 8" above rails
N-44	727000-727999	1956-57	B&O	1000	0	0	0	0	0	0	0	0	0	NEW	1000	3279	B&O 727000-727999 and 729000-729499 leased; 33' IL steel offset hopper, 50-t, top chord 10' 8" above rails
N-44	728000-728999	1957	B&O	1000	0	0	0	0	0	0	0	0	0	NEW	1000		
N-44	729000-729499	1959	B&O	500	0	0	0	0	0	0	0	0	0	0	500		
N-44	729500-730299	1960	B&O	800	0	0	0	0	0	0	0	0	0	0	0		
Total N-44				3300	0	0	0	0	0	0	0	0	0	0	2500	3279	



Class	Car Numbers	Built (Acquired) [Rebuilt]	Builder	No. Built or Acquired	1919	1928	1932	1936	1940	1944	1948	1952	1954	1956	1958	1962	Description/Construction
N-50	129000-132499	1936-40 [1961-63] (1961)	ACF P-S RSC GATC [C&O Raceland ]	2780	0	0	0	0	0	0	0	0	0	0	0	2780	From C&O 129000-132499, 132500-132999, 133500-133899, 133900-133999 (welded), and 134000-135496, leased from Raillease, Inc. (a C&O subsidiary); 33' IL steel offset hopper (AAR Alternate Standard), 50-t, top chord 10' 6" above rails, extended radial arch ends
N-50	132500-132999	1937 (1961)	P-S														
N-50	133000-133499	1937 (1961)	ACF														
N-50	133500-133899	1940 (1961)	ACF														
N-50	133900-133999	1940 (1961)	ACF														
N-50	134000-135496	1939-40 (1961)	P-S RSC GATC														
	25000	1914 (1918)		1	1	1	1	1	1	1	0	0	0	0	0	0	40' 6" IL steel hopper, 70-t, top chord 10' 6" above rails
P&W	25550-25599	1898 (1902)	PSC	450	0	0	0	0	0	0	0	0	0	0	0	0	ex-Pittsburgh & Western; 29' IL steel hopper, fishbelly side sill, 50-t, top chord 8' 9" above rails, 9 side stakes; off roster in 1926
C&C	5000	(1919)		1	1	0	0	0	0	0	0	0	0	0	0	0	ex-Coal & Coke; 30' 9" IL steel hopper, 50-t, top chord 10' 6" above rails; off roster in 1924
C&C	5002-5300	(1919)		253	253	0	0	0	0	0	0	0	0	0	0	0	ex-Coal & Coke; 30' 11" IL composite hopper, 50-t, top chord 10' 6" above rails; 202 cars in 1920, 117 cars in 1921, off roster in 1922
M&K	4000-4399	1919 (1923)	RSC	772	0	0	0	0	0	0	0	0	0	0	0	0	ex-Morgantown & Kingwood; 30' 6" IL steel hopper, 55-t, top chord 10' 8" above rails; 772 cars in 1923, 7 cars in 1924, renumbered 1925 into B&O 324000-324999, Class N-17; original USRA allocation LV 27001-27400 (M&K 4000-4399), LV 27701-28300 (M&K 4400-4999)
M&K	4400-4599	1919 (1923)	SSC														
M&K	4600-4999	1919 (1923)	SSC														
Total M&K				772	0	0	0	0	0	0	0	0	0	0	0	0	

Class	Car Numbers	Built (Acquired) [Rebuilt]	Builder	No. Built or Acquired	1919	1928	1932	1936	1940	1944	1948	1952	1954	1956	1958	1962	Description/Construction	
CNJ	5000-5459	1920 (1947)	SSC Pullman		0	0	0	0	0	0	395	440	251	0	0	0	From CNJ 65040-65499, leased 1947-1955; USRA steel twin hopper, 30' 6" IL steel hopper, 55-t, top chord 10' 9" above rails, 7 side stakes	
CNJ	5460-5534	1922 (1947)	SSC	75	0	0	0	0	0	0	954	1049	1047	2	1	0	From CNJ 65500-66633, leased 1947-1955; 32" IL steel hopper, 55-t, top chord 10' 6" above rails, 8 side stakes	
CNJ	5535-6534	1920 (1947)	SSC	1000	0	0	0	0	0	0							From CNJ 66000-66999, leased 1947-1955; 32" IL steel hopper, 55-t, top chord 10' 6" above rails, 8 side stakes	
CNJ	3000-4559	Various (1955)	Various	1481+	0	0	0	0	0	0	0	0	0	1186	1481	104	Leased 1955-1962 from various CNJ number series; see Table 2A	
C&O	50000-50399	1941 (1962)	ACF	1285	0	0	0	0	0	0	0	0	0	0	0	0	1285	From C&O 50000-50999, 51000-51999, 52000-52999; 33' IL offset steel hopper (AAR Alternate Standard), 50-t, top chord 10' 6" above rails, extended radial arch ends (52000-52999 extended notched arch ends)
C&O	50400-50699		P-S															
C&O	50700-50999		GATC															
C&O	51000-51999	1942 (1962)	ACF															
C&O	52000-52999		ACF															
C&O	118000-123999	1934 [1963] (1963)	[C&O Raceland ]	1500	0	0	0	0	0	0	0	0	0	0	0	1500 (1963)	From C&O 118000-123999, rebuilt AAR Alternate Standard hoppers leased from Railease, Inc. (a C&O subsidiary); 33' IL steel hopper, 50-t, top chord 10' 4" above rails, 9 side stakes, angular end extensions	
LT	23100-23149	1951 (1963)		28	0	0	0	0	0	0	0	0	0	0	0	28 (1963)	From Lake Terminal 3000- 3149, leased from United States Equipment Leasing 10/31/1963; 33' IL steel hopper, 70- t, top chord 10' 8" above rails, 9 side stakes	

**Table 2A: CNJ HOPPERS LEASED TO THE BALTIMORE & OHIO  
1955-1962**

<b>CNJ Hoppers Leased to the B&amp;O 1955-1962 (B&amp;O 3000-4559) from "The Baltimore and Ohio Railroad Lease of Central Railroad of New Jersey Hoppers" by Chris Barkan, <i>The Sentinel</i>, Vol. 14 No. 3, May-June 1992.</b>					
<b>CNJ Number Series</b>	<b>Built</b>	<b>Builder</b>	<b>Design</b>	<b>Confirmed Number on B&amp;O</b>	<b>Description/Construction</b>
10001-10500	1944	PSC	AAR 34' Offset Twin	51(?)	33 ft IL steel offset hopper, 50-t, top chord 10' 8" above rails
61000-61999	1909	SSC	"Pre-USRA" Twin	1	30' IL steel hopper, 50-t, top chord 10' 5" above rails, 7 side stakes
62000-62999	1912	SSC	"Pre-USRA" Twin	48	30' IL steel hopper, 50-t, top chord 10' 5" above rails, 7 side stakes
63000-63999	1916	SSC	"Nine-Panel"	196	32" IL steel hopper, 55-t, top chord 10' 6" above rails, 8 side stakes
64000-64999	1916	PSC	"Nine-Panel"	164	32" IL steel hopper, 55-t, top chord 10' 6" above rails, 8 side stakes
65000-65249	1919	Pullman	USRA Twin	58	30' 6" IL steel hopper, 50-t, top chord 10' 8" above rails, 7 side stakes
65250-65499	1919	SSC	USRA Twin	105	30' 6" IL steel hopper, 50-t, top chord 10' 8" above rails, 7 side stakes
65500-65074	1922	SSC	"Nine-Panel"	25	32" IL steel hopper, 55-t, top chord 10' 6" above rails, 8 side stakes
66000-66999	1920	SSC	"Nine-Panel"	442	32" IL steel hopper, 55-t, top chord 10' 6" above rails, 8 side stakes
67000-67499	1941-42	RDG	"Fishbelly Side Sill"	144	31' IL welded steel hopper, 55-t, top chord 11' above rails, 7 side stakes
67500-67999	1941-42	CNJ	"Fishbelly Side Sill"	111	31' IL welded steel hopper, 55-t, top chord 11' above rails, 7 side stakes



**Table 3: BALTIMORE & OHIO HOPPERS 1919-1963**  
**CLASS W HOPPER CARS**

Class	Car Numbers	Built (Acquired) [Rebuilt]	Builder	No. Built or Acquired	1919	1928	1932	1936	1940	1944	1948	1952	1954	1956	1958	1962	Description/Construction
W-1	132000-132999	1911	PSC	1000	1996	1060	1059	1051	912	902	286	82	40	6	2	2	40' 2" IL steel quad hopper, 50-t (134000-134999), 70-t (132000-133999, 135000-135999), top chord 10' 8" above rails, 11 side stakes; B&O 132848, 133390, 134037, 134893, 135462, 135606 last cars in service
W-1	133000-133999	1911	CSC	1000													
W-1	134000-134999	1910	CSC	1000													
W-1	135000-135999	1910	SSC	1000													
Total W-1				4000	3991	1880	1882	1873	1694	1675	574	157	77	11	6	4	
W-1a	332000-332016	1922	BC&F		0	712	710	709	708	706	523	217	59	7	3	1	40' 2" IL steel quad hopper, 50-t (332000-332999), 70-t (333000-334999), top chord 10' 8" above rails, 11 side stakes; B&O 332082 and 332555 last cars in service
W-1a	332017-332038	1922	Canton														
W-1a	332039-332057	1923	Koppel														
W-1a	332058-332999	1922	BC&F														
W-1a	333000-333007	1922	BC&F		0	1361	1359	1358	1352	1353	1053	458	252	49	22	4	
W-1a	333008-333010	1922	Canton														
W-1a	333011-333016	1923	Koppel														
W-1a	333017-333999	1923	BC&F														
W-1a	334000-334999	1923	BC&F														
Total W-1a				2075	0	2073	2069	2067	2060	2059	1576	675	311	56	25	5	
W-1b	335500-335749	1922-23 [1949]	Various [B&O DuBois]	249	0	0	0	0	0	0	0	249	198	197	193	54	Rebuilt from Class W-1A; 40' 2" IL steel quad hopper, 70-t, top chord 10' 8" above rails, 11 side stakes
W-1ba	335617, 335644, 335684, 335694	1922-23 [1960]	Various [B&O Keyser]	4	0	0	0	0	0	0	0	0	0	0	0	4	Converted from Class W-1B for wood chip service; 40' 2" IL steel quad hopper, 70-t, top chord 14' 3" above rails, 11 side stakes
W-2	432000-432999	1926	BSC	1000	0	2000	2000	1998	1990	1988	1981	1968	1964	1960	1950	2819	41' 3" steel offset quad hopper. 70-t, top chord 10' 6" above rails
W-2	433000-433999	1926	BC&F	1000													
Total W-2				2000	0	2000	2000	1998	1990	1988	1981	1968	1964	1960	1950		
W-2a	434000-434999	1926-27	BC&F	1000	0	1998	1998	1994	1986	1982	1977	1964	1959	1951	1943	1890	41' 3" steel offset quad hopper. 70-t, top chord 10' 6" above rails
W-2a	532000-532999	1927	BC&F	1000													
W-2a	533000-533999	1927	BSC	1000													
Total W-2a				3000	0	2998	2998	2994	2984	2980	2974	2954	2946	2934	2924		
W-2b	430000-430999	1929	SSC	1000	0	0	2000	1998	1989	1986	1982	1974	1970	1966	1958	1900	41' 3" steel offset quad hopper. 70-t, top chord 10' 6" above rails, Duryea cushion underframe
W-2b	431000-431999	1929	BSC	1000													
Total W-2b				2000	0	0	2000	1998	1989	1986	1982	1974	1970	1966	1958	1900	

Class	Car Numbers	Built (Acquired) [Rebuilt]	Builder	No. Built or Acquired	1919	1928	1932	1936	1940	1944	1948	1952	1954	1956	1958	1962	Description/Construction
W-3	335000-335119	1921-22 (1927)	RSC	120	0	120	119	119	119	119	27	12	8	2	1	0	ex-Bertha-Consumer Co.; 40' 2" steel quad hopper, 70-t, top chord 10' 6" above rails, 11 side stakes; B&O 335033 last car in service, off roster in 1960
W-3 (2nd)	819900-819911	1929 [1960] (1963)	BSC [LV]	12	0	0	0	0	0	0	0	0	0	0	0	12	ex-Lehigh Valley wood chip cars; 40' IL steel quad hopper, 70-t, top chord 12' 8" above rails, 9 side stakes
W-4	620000	1929	B&O Mt Clare	1	0	0	1	1	1	1	1	1	1	0	0	0	41' 3" welded steel "slab-side" hopper. 95-t, top chord 10' 8" above rails, peaked end extensions, end doors
W-5	625000 (620500 1948)	1932	B&O Mt Clare	1	0	0	NEW	1	1	1	1	1	1	1	1	1	39' IL welded steel "slab side" hopper, 70-t, top chord 10' 8" above rails
W-7	435000-435499	1947	PSC	500	0	0	0	0	0	0	1000	999	997	995	992	549	40' 8" IL steel offset triple hopper, 70-t, top chord 10' 8" above rails, Duryea cushion underframe
W-7	435500-435999	1947	P-S	500													
Total W-7				1000	0	0	0	0	0	0	1000	999	997	995	992	549	
W-7a	621000-622499	1948	P-S	1500	0	0	0	0	0	0	NEW	1493	1493	1488	1485	965	40' 8" IL steel offset triple hopper, 70-t, top chord 10' 8" above rails, Duryea cushion underframe
W-7b	623000-624999	1948	B&O	2000	0	0	0	0	0	0	NEW	1991	1990	1989	1986	1305	40' 8" IL steel offset triple hopper, 70-t, top chord 10' 8" above rails, Duryea cushion underframe
W-8	625000-625999	1956	BSC	1000	0	0	0	0	0	0	0	0	0	NEW	1500	1486	40' 8" IL steel offset triple hopper, 70-t, top chord 10' 8" above rails
W-8	626000-626499	1956	P-S	500													
Total W-8				1500	0	0	0	0	0	0	0	0	0	0	1500	1486	
W-9	734000-735749	1957	BSC	1750	0	0	0	0	0	0	0	0	0	0	1750	1993	B&O 735750-735999 leased from Bethlehem Steel; 40' 8" IL steel offset triple hopper, 70-t, top chord 10' 8" above rails
W-9	735750-735999	1958 (1958)	BSC	250	0	0	0	0	0	0	0	0	0	0	250		
Total W-9				2000	0	0	0	0	0	0	0	0	0	0	2000	1993	
W-10	627000-629000	1964	B&O DuBois	2000	0	0	0	0	0	0	0	0	0	0	0	0	40' 8" IL steel offset triple hopper, 90-t, top chord 11' above rails

Class	Car Numbers	Built (Acquired) [Rebuilt]	Builder	No. Built or Acquired	1919	1928	1932	1936	1940	1944	1948	1952	1954	1956	1958	1962	Description/Construction
W-11	829000-829289	1951 (1961)	PSC	290	0	0	0	0	0	0	0	0	0	0	0	290	ex-C&EI 98500-98799; 42' 8" welded steel triple hopper, 70-t, top chord 10' 8" above rails, 10 side stakes
W-11a	829000-829289 [scattered]	1951 [1962]	PSC [B&O Keyser]	29	0	0	0	0	0	0	0	0	0	0	0	29 (1963)	Converted to wood chip service; 42' 8" welded steel triple hopper, 70-t, top chord 13' 2" above rails, 10 side stakes. Known numbers: 829065, 829093
W-11b	829024, 829054, 829000-829289 [scattered]	1951 [1963-1965]	PSC [B&O Keyser]	41	0	0	0	0	0	0	0	0	0	0	0	2 (1963)	Converted to wood chip service; 42' 8" welded steel triple hopper, 70-t, top chord 14' 6" above rails, 10 side stakes
W-12 (Welded)	91000-94999	1948 (1962)	ACF	1587	0	0	0	0	0	0	0	0	0	0	0	1587	From C&O 91000-94999, 96000-97999, and 99000-99499; 38' 6" IL welded steel hopper, 70-t, top chord 10' 8" above rails, 10 side stakes, extended notched arched ends
W-12 (Welded)	96000-97999	1948 (1962)	ACF	781	0	0	0	0	0	0	0	0	0	0	0	781	
W-12 (Welded)	99000-99499	1949 (1962)	ACF	198	0	0	0	0	0	0	0	0	0	0	0	198	
Total W-12 (Welded)				2566	0	0	0	0	0	0	0	0	0	0	0	2566	
W-12 (Riveted)	98000-98999	1949 (1962)	BSC	409	0	0	0	0	0	0	0	0	0	0	0	409	From C&O 98000-98999; 38' 6" IL steel hopper, 70-t, top chord 10' 8" above rails, 10 side stakes, extended notched arched ends
W-13	10000-15249	1956-57 (1963)	C&O Raceland	750	0	0	0	0	0	0	0	0	0	0	0	750 (1963)	ex-C&O 110000-115249; 40' 8" IL welded steel triple hopper, 70-t, top chord 10' 8" above rails, 10 side stakes, arched end extensions
N&W Class H-3	3000-4499	1922, 1924, 1927 [1944] (1944)	Various [N&W Roanoke]	1880+	0	0	0	0	0	NEW	112	0	0	0	0	0	N&W Class H-3, leased 1944-1948; 36' 9" IL steel triple hopper, 70-t, top chord 11' above rails, 9 side stakes
BM	2000-2099	1929-30 (1949)	SSC	100	0	0	0	0	0	0	0	100	96	0	0	0	From BM 8000-8999 series, leased 1950-1954; 40' 5" IL steel offset quad hopper, 70-t, top chord 10' 8" above rails



## Modeling Considerations

Table 4 and 4A provide model recommendations in HO scale. The modeling options presented are recommended approaches for accurate models. Criteria driving selection include dimensional accuracy and matching of significant details of model and prototype. This is an attempt to take a “reasonable modeler approach”; however, the author is aware that personal standards vary between modelers, and what would be acceptable to one modeler may be totally unacceptable to another.

- A kit listed without a qualifier of **Kitbash** or **Heavy Kitbash** will require little or no reworking for an accurate model.

- **Kitbash** denotes a model requiring minor reworking (e.g., addition, removal, relocation, or replacement of small details such as ladders, slope sheet braces, or end sills) to produce an accurate model
- **Heavy Kitbash** denotes a model requiring major reworking (e.g., cutting apart and splicing models, removing and replacing side stakes, or significant scratchbuilding)
- *Manufacturer name in italics* indicates that the model is currently out of production but may be available on the secondary market.

We’ll cover options for other scales in the individual class articles to follow.



Bruce D. Griffin Photograph.

**Table 4 - BALTIMORE & OHIO OPEN HOPPERS 1919-1963  
MODELING SUMMARY**

<b>Class</b>	<b>No. Blt.</b>	<b>Description/Construction</b>	<b>Modeling Options (HO scale)</b>
<b>N-8</b>	1000	30' IL steel hopper, fishbelly side sill, 40-t, top chord 10' 2" above rails, 9 side stakes	<b>Heavy Kitbash of Westerfield resin kit</b>
<b>N-9</b>	8000	30' IL steel hopper, fishbelly side sill, 50-t, top chord 10' 7" above rails, 9 side stakes	<b>Heavy Kitbash of Westerfield resin kit</b>
<b>N-10</b> <b>N-10a</b> <b>N-10b</b> <b>N-10d</b> <b>N-10e</b> <b>N-10f</b>	9000+	31' 6" steel hopper, 50-t, top chord 10' 8" above rails, 9 side stakes	<b>Heavy Kitbash of Tichy or Accurail USRA twin hopper styrene kit or Heavy Kitbash of two Westerfield N&amp;W H-1 hopper resin kits or Heavy Kitbash of Model Power/Marx twin hopper RTR "trainset" models</b>
<b>N-10w</b>	1	31' 6" composite hopper, 50-t, top chord 10' 8" above rails	<b>Heavy Kitbash of Tichy or Accurail USRA twin hopper styrene kit with scratchbuilt sides</b>
<b>N-11</b>	1980	30' 11" Seley composite triple hopper, 50-t, top chord 10' 6" above rails	<b>Kitbash of Funaro and Camerlengo/Smokey Mountain Miniatures resin kit</b>
<b>N-12</b> <b>N-12a</b> <b>N-12b</b> <b>N-12c</b> <b>N-12d</b> <b>N-12e</b> <b>N-12f</b> <b>N-12g</b> <b>N-12h</b> <b>N-12j</b> <b>N-12k</b>	14615	30' IL steel hopper, 50-t, top chord 10' 6" above rails, 7 side stakes	<b>Kitbash of Tichy or Accurail USRA twin hopper styrene kit or Heavy Kitbash of two Life-Like/Varney RTR "trainset" models</b>
<b>N-12w</b>	2	30' IL composite hopper, 50-t, top chord 10' 6" above rails	<b>Heavy Kitbash of Tichy or Accurail USRA twin hopper styrene kit with scratchbuilt sides or Heavy Kitbash of two Life-Like/Varney RTR "trainset" models with scratchbuilt sides</b>
<b>N-13</b>	9000	31' IL steel side-dump hopper, 50-t, top chord 10' 8" above rails, 7 side stakes	<b>Heavy Kitbash of Tichy or Accurail USRA twin hopper styrene kits</b>
<b>N-14</b>	500	ex-Jamison Coke & Coal Co.; 30' IL steel hopper, 50-t, top chord 10' above rails, 9 alternating pressed steel/channel side stakes	<b>Westerfield resin kit</b>
<b>N-15</b>	300	ex-Jamison Coke & Coal Co.; 30' 5" IL steel hopper, 50-t, top chord 10' above rails, 7 side stakes	<b>Westerfield resin kit or Bowser PRR Class GLA styrene kit</b>
<b>N-16</b>	1000	31' 4" IL Seley composite triple hopper, 55-t, top chord 10' 8" above rails	<b>Kitbash of Funaro and Camerlengo/Smokey Mountain Miniatures resin kit</b>
<b>N-16a</b>	989	31' 4" IL Seley composite triple hopper, 50-t, top chord 10' 8" above rails	<b>Heavy Kitbash of Funaro and Camerlengo/Smokey Mountain Miniatures resin kit</b>
<b>N-16b</b>	1	31' 4" IL steel triple hopper (rebuilt Seley composite hopper), 50-t, top chord 10' 8" above rails	<b>Heavy Kitbash of Funaro and Camerlengo/Smokey Mountain Miniatures resin kit</b>
<b>N-17</b> <b>N-17a</b> <b>N-17b</b>	4000	USRA steel twin hopper (or ex-BR&P, ex-Morgantown & Kingwood, or ex-Bertha Consumer clone); 30' 6" IL steel hopper, 50-t, top chord 10' 8" above rails, 7 side stakes	<b>Tichy or Accurail styrene kit</b>
<b>N-18</b>	549	Obtained from Bethlehem Steel Co.; 30' IL steel hopper, 50-t, top chord 10' 5" above rails, 7 side stakes	<b>Heavy Kitbash of Tichy or Accurail USRA twin hopper styrene kit or Heavy Kitbash of two Life-Like/Varney RTR "trainset" models</b>
<b>N-19</b>	549	ex-Morgantown & Kingwood 3000-3019; 30' IL steel hopper, 50-t, top chord 10' 8" above rails, 9 side stakes plus 2 diagonals in center panels	<b>Heavy Kitbash of Tichy or Accurail USRA twin hopper styrene kit or Heavy Kitbash of two Life-Like/Varney RTR "trainset" models</b>

<b>Class</b>	<b>No. Blt.</b>	<b>Description/Construction</b>	<b>Modeling Options (HO scale)</b>
<b>N-20</b>	49	ex-CI&W 801-850; 30' IL steel hopper, 50-t, top chord 10' 5" above rails, 7 side stakes	<b>Heavy Kitbash of</b> Tichy or Accurail USRA twin hopper <b>styrene kit</b> or <b>Heavy Kitbash of</b> two Life-Like/Varney RTR "trainset" models
<b>N-21</b>	382	ex-BR&P; 30' 6" IL wood hopper with steel centersills, 40-t, top chord 9' 1" above rails	No photo or diagram available at press time
<b>N-21a</b>	23	ex-BR&P; 30' 6" IL wood hopper with steel centersills, 40-t, top chord 9' 1" above rails	No photo or diagram available at press time
<b>N-22</b>	45	ex-BR&P; 28' 6" IL wood hopper with steel centersills, 40-t, top chord 9' 1" above rails	No photo or diagram available at press time
<b>N-22a</b>	1	ex-BR&P; 30' 6" IL wood hopper with steel centersills, 40-t, top chord 9' 1" above rails	No photo or diagram available at press time
<b>N-23</b>	6250	ex-BR&P; 30' IL steel hopper, 50-t, top chord 10' above rails, 7 side stakes	<b>Kitbash of</b> Life-Like/Varney RTR "trainset" models or Bowser PRR Class GLA <b>styrene kit</b>
<b>N-24</b>	81	ex-B&S; 40' 5" IL steel hopper, 50-t, top chord 12' above rails	No photo or diagram available at press time
<b>N-26</b>	397	ex-B&S; 30' 6" IL steel hopper, 50-t, top chord 10' 9" above rails, 7 side stakes	Tichy or Accurail <b>styrene kit</b>
<b>N-26a</b>	200	ex-B&S; 30' 6" IL steel hopper, 50-t, top chord 10' 9" above rails, 7 side stakes	Tichy or Accurail <b>styrene kit</b>
<b>N-27</b>	184	ex-B&S; 30' IL steel hopper, 50-t, top chord 10' above rails	No photo or diagram available at press time
<b>N-28</b>	1	35' IL aluminum offset hopper, 50-t, top chord 10' 8" above rails	<b>Heavy Kitbash of</b> Walthers/Train-Miniature <b>styrene kit</b>
<b>N-29</b>	1	34' 11" IL high-tensile steel offset hopper, 50-t, top chord 10' 8" above rails, Duryea cushion underframe	<b>Heavy Kitbash of</b> Walthers/Train-Miniature <b>styrene kit</b>
<b>N-30</b>	1	32' 2" IL high-tensile steel offset hopper, 50-t, top chord 10' 8" above rails, Duryea cushion underframe, corrugated sides	<b>Heavy Kitbash of</b> Atlas or Athearn <b>styrene kit</b>
<b>N-30a</b>	3	32' 2" IL high-tensile steel offset hopper, 50-t, top chord 10' 8" above rails, Duryea cushion underframe, corrugated sides	<b>Heavy Kitbash of</b> Atlas or Athearn <b>styrene kit</b>
<b>N-33</b>	1	29' IL "fishbelly" steel hopper, 40-t, top chord 10' 6" above rails, 7 side stakes	<b>Kitbash of</b> Ulrich <b>metal kit</b>
<b>N-35</b> <b>N-35a</b> <b>N-35b</b> <b>N-35c</b>	14000	33 ft IL steel offset hopper, 50-t, top chord 10' 8" above rails, Duryea cushion underframe.	<b>Kitbash of</b> Atlas, Athearn or Kadee <b>styrene kit</b> (Atlas kit best starting point for N-35; Athearn or Kadee kit best starting point for N-35A)
<b>N-37</b>	1025	33 ft IL War Emergency composite hopper, 50-t, top chord 10' 9" above rails, Duryea cushion underframe	<b>Kitbash of</b> Proto 2000 or Athearn <b>styrene kit</b>
<b>N-37a</b> <b>N-37b</b>	780	Rebuilt from Class N-37. 33 ft IL steel hopper, 50-t, top chord 10' 9" above rails, Duryea cushion underframe	<b>Kitbash of</b> Proto 2000 or Mantua/Lindberg <b>styrene kit</b>
<b>N-38</b>	41	ex-BC&G; 30' 5" IL steel hopper, 50-t, top chord 10' above rails, 7 side stakes	<b>Kitbash of</b> Westerfield PRR GLA <b>resin kit</b> Bowser PRR GLA <b>styrene kit</b>
<b>N-39</b>	300	ex-BC&G; 30' IL steel hopper, 50-t, top chord 10' 6" above rails, 7 side stakes	<b>Kitbash of</b> Tichy or Accurail USRA twin hopper <b>styrene kit</b> or <b>Heavy Kitbash of</b> two Life-Like/Varney RTR "trainset" models
<b>N-41</b>	4000	33' IL steel offset hopper, 50-t, top chord 10' 8" above rails	Atlas, Athearn, or Kadee <b>styrene kit</b>
<b>N-41a</b>	484	ex-LNE; 33' IL steel offset hopper, 50-t, top chord 10' 8" above rails	Atlas, Athearn, or Kadee <b>styrene kit</b>

<b>Class</b>	<b>No. Blt.</b>	<b>Description/Construction</b>	<b>Modeling Options (HO scale)</b>
<b>N-44</b>	3300	33' IL steel offset hopper, 50-t, top chord 10' 8" above rails	<i>Atlas</i> , Athearn, or Kadee <b>styrene kit</b>
<b>N-50</b>	2780	From C&O 129000-132499, 132500-132999, 133500-133899, 133900-133999 (welded), and 134000-135496, leased from Railease, Inc. (a C&O subsidiary); 33' IL steel offset hopper (AAR Alternate Standard), 50-t, top chord 10' 6" above rails, extended radial arch ends	<b>Kitbash</b> of <i>Atlas</i> <b>styrene kit</b> plus Sunshine Models <b>resin conversion kit</b>
<b>B&amp;O 25000</b>	1	40' 6" IL steel hopper, 70-t, top chord 10' 6" above rails	No photo or diagram available at press time
<b>P&amp;W</b>	450	ex-P&W; 29' IL steel hopper, fishbelly side sill, 50-t, top chord 8' 9" above rails, 9 side stakes	<b>Heavy kitbash</b> of Westerfield <b>resin kit</b>
<b>C&amp;C (5000)</b>	1	ex-C&C; 30' 9" IL steel hopper, 50-t, top chord 10' 6" above rails	No photo or diagram available at press time
<b>C&amp;C (5002-5300)</b>	253	ex-C&C; 30' 11" IL composite hopper, 50-t, top chord 10' 6" above rails	No photo or diagram available at press time
<b>M&amp;K (4000-4999)</b>	772	ex-Morgantown & Kingwood USRA steel twin hopper; 30' 6" IL steel hopper, 55-t, top chord 10' 8" above rails	Tichy or Accurail <b>styrene kit</b>
<b>CNJ (5000-5459)</b>	440+	Leased from CNJ; USRA steel twin hopper, 30' 6" IL steel hopper, 55-t, top chord 10' 9" above rails, 7 side stakes	Tichy or Accurail <b>styrene kit</b>
<b>CNJ (5460-6534)</b>	175	Leased from CNJ; 32" IL steel hopper, 55-t, top chord 10' 6" above rails, 8 side stakes	Funaro & Camerlengo/Anthracite Railroads Historical Society <b>resin kit</b>
<b>CNJ (3000-4559)</b>	1481+	Leased from CNJ; <b>Various – See Table 4A</b>	<b>Various – See Table 4A</b>
<b>C&amp;O (50000-52999)</b>	1285	ex-C&O 50000-50999, 51000-51999, 52000-52999; 33' IL offset steel hopper (AAR Alternate Standard), 50-t, top chord 10' 6" above rails, extended radial arch ends (52000-52999 extended notched arch ends)	<b>Kitbash</b> of <i>Atlas</i> <b>styrene kit</b> plus Sunshine Models <b>resin conversion kit</b>
<b>C&amp;O (118000-123999)</b>	1500	From C&O 118000-123999, rebuilt AAR Alternate Standard hoppers leased from Railease, Inc. (a C&O subsidiary); 33' IL steel hopper, 50-t, top chord 10' 4" above rails, 9 side stakes, angular end extensions	<b>Heavy kitbash</b> of Athearn <b>styrene kit</b>
<b>LT</b>	28	From Lake Terminal 3000-3149, leased from United States Equipment Leasing; 33' IL steel hopper, 70-t, top chord 10' 8" above rails, 9 side stakes	<b>Heavy kitbash</b> of Athearn <b>styrene kit</b>
<b>W-1</b>	4000	40' 2" IL steel quad hopper, 50-t (134000-134999), 70-t (132000-133999, 135000-135999), top chord 10' 8" above rails, 11 side stakes	Westerfield <b>resin kit</b> or <b>Kitbash</b> of Bowser <b>styrene kit</b>
<b>W-1a</b>	2075	40' 2" IL steel quad hopper, 50-t (332000-332999), 70-t (333000-334999), top chord 10' 8" above rails, 11 side stakes	<b>Kitbash</b> of Westerfield <b>resin kit</b> or Bowser <b>styrene kit</b>
<b>W-1b</b>	249	Rebuilt from Class W-1 and W-1A; 40' 2" IL steel quad hopper, 70-t, top chord 10' 8" above rails, 11 side stakes	<b>Heavy Kitbash</b> of Westerfield <b>resin kit</b> or Bowser <b>styrene kit</b>



<b>Class</b>	<b>No. Blt.</b>	<b>Description/Construction</b>	<b>Modeling Options (HO scale)</b>
<b>W-1ba</b>	4	Converted from Class W-1B for wood chip service; 40' 2" IL steel quad hopper, 70-t, top chord 14' 3" above rails, 11 side stakes	Heavy Kitbash of <b>Westerfield</b> resin kit or <b>Bowser</b> styrene kit
<b>W-2</b> <b>W-2a</b>	5000	41' 3" steel offset quad hopper. 70-t, top chord 10' 6" above rails	<b>Athearn</b> styrene kit or Kitbash of <b>AHM, Bachmann/Cox, Tyco, or Walthers Trainline</b> RTR trainset models
<b>W-2b</b>	2000	41' 3" steel offset quad hopper. 70-t, top chord 10' 6" above rails, Duryea cushion underframe	<b>Kitbash of Athearn styrene kit</b> or <b>AHM, Bachmann/Cox, Tyco, or Walthers Trainline RTR trainset models</b>
<b>W-3</b>	120	ex-Bertha-Consumer Co.; 40' 2" steel quad hopper, 70-t, top chord 10' 6" above rails, 11 side stake	<b>Kitbash of Westerfield resin kit</b> or <b>Bowser styrene kit</b>
<b>W-3</b> (2 <sup>nd</sup> )	12	ex-Lehigh Valley wood chip cars; 40' IL steel quad hopper, 70-t, top chord 12' 8" above rails, 9 side stakes	<b>Heavy Kitbash of Hobbyline/Lionel styrene kit</b>
<b>W-4</b>	1	41' 3" welded steel "slab-side" hopper. 95-t, top chord 10' 8" above rails, peaked end extensions, end doors	<b>Heavy Kitbash of Athearn styrene kit</b> or <b>AHM, Bachmann/Cox, Tyco, or Walthers Trainline RTR trainset models</b>
<b>W-5</b>	1	39' IL welded steel "slab side" hopper, 70-t, top chord 10' 8" above rails	<b>Heavy Kitbash of Bowser/Stewart styrene kit</b>
<b>W-7</b> <b>W-7a</b> <b>W-7b</b>	4500	40' 8" IL steel offset triple hopper, 70-t, top chord 10' 8" above rails, Duryea cushion underframe	<b>Kitbash of Accurail or Bowser/Stewart styrene kits</b>
<b>W-8</b> <b>W-9</b>	2500	40' 8" IL steel offset triple hopper, 70-t, top chord 10' 8" above rails	Accurail or Bowser/Stewart <b>styrene kits</b>
<b>W-10</b>	2000	40' 8" IL steel offset triple hopper, 90-t, top chord 11' above rails	<b>Heavy Kitbash of Accurail or Bowser/Stewart styrene kits</b>
<b>W-11</b>	290	42' 8" IL, ex-C&E 98500-98799; welded steel triple hopper, 70-t, top chord 10' 8" above rails ' above rails, 10 side stakes	Atlas Trainman <b>styrene kit</b>
<b>W-11a</b>	29	42' 8" IL, Converted to wood chip service; X' welded steel triple hopper, 70-t, top chord 13' 2" above rails, 10 side stakes	<b>Heavy Kitbash of Atlas Trainman styrene kit</b>
<b>W-11b</b>	41	Converted to wood chip service; 42' 8" welded steel triple hopper, 70-t, top chord 14' 6" above rails, 10 side stakes	<b>Heavy Kitbash of Atlas Trainman styrene kit</b>
<b>W-12</b> (Welded)	2566	From C&O 91000-94999, 96000-97999, and 99000-99499; 38' 6" IL welded steel hopper, 70-t, top chord 10' 8" above rails, 10 side stakes, extended notched arched ends	JJL Models <b>resin kit</b>
<b>W-12</b> (Riveted)	409	From C&O 98000-98999; 38' 6" IL steel hopper, 70-t, top chord 10' 8" above rails, 10 side stakes, extended notched arched ends	<b>Kitbash of Atlas Trainman or MDC styrene kits</b>
<b>W-13</b>	750	ex-C&O 110000-115249; 40' 8" IL welded steel triple hopper, 70-t, top chord 10' 8" above rails, 10 side stakes, arched end extensions	<b>Kitbash of Atlas Trainman or MDC styrene kits</b>
<b>N&amp;W Class H-3</b>	1880+	36' 9" IL steel triple hopper, 70-t, top chord 11' above rails, 9 side stakes	<b>Kitbash of Broadway Limited styrene RTR model</b> or Eastern Car Works <b>styrene kit</b>
<b>BM</b>	100	40' 5" IL steel offset quad hopper, 70-t, top chord 10' 8" above rails	<b>Kitbash of Athearn styrene kit</b> or <b>AHM, Bachmann/Cox, Tyco, or Walthers Trainline RTR trainset models</b>

**Table 4A: CNJ HOPPERS LEASED TO THE BALTIMORE & OHIO  
1955-1962  
MODELING SUMMARY**

<b>CNJ Number Series</b>	<b>Confirmed Number on B&amp;O</b>	<b>Design</b>	<b>Description/Construction</b>	<b>Modeling Options (HO scale)</b>
10001-10500	51(?)	AAR 34' Offset Twin	33 ft IL steel offset hopper, 50-t, top chord 10' 8" above rails	<i>Atlas</i> , <i>Athearn</i> , or <i>Kadee</i> <b>styrene kit</b>
61000-61999	1	"Pre-USRA" Twin	30' IL steel hopper, 50-t, top chord 10' 5" above rails, 7 side stakes	<b>Kitbash</b> of Tichy or Accurail USRA twin hopper <b>styrene kit</b> or <b>Heavy Kitbash</b> of two Model Power/Life-Like/Marx/Varney RTR "trainset" models
62000-62999	48	"Pre-USRA" Twin	30' IL steel hopper, 50-t, top chord 10' 5" above rails, 7 side stakes	<b>Kitbash</b> of Tichy or Accurail USRA twin hopper <b>styrene kit</b> or <b>Heavy Kitbash</b> of two Model Power/Life-Like/Marx/Varney RTR "trainset" models
63000-63999	196	"Nine-Panel"	32" IL steel hopper, 55-t, top chord 10' 6" above rails, 8 side stakes	Funaro & Camerlengo/Anthracite Railroads Historical Society <b>resin kit</b>
64000-64999	164	"Nine-Panel"	32" IL steel hopper, 55-t, top chord 10' 6" above rails, 8 side stakes	Funaro & Camerlengo/Anthracite Railroads Historical Society <b>resin kit</b>
65000-65249	58	USRA Twin	30' 6" IL steel hopper, 50-t, top chord 10' 8" above rails, 7 side stakes	Tichy or Accurail <b>styrene kits</b>
65250-65499	105	USRA Twin	30' 6" IL steel hopper, 50-t, top chord 10' 8" above rails, 7 side stakes	Tichy or Accurail <b>styrene kits</b>
65500-65074	25	"Nine-Panel"	32" IL steel hopper, 55-t, top chord 10' 6" above rails, 8 side stakes	Funaro & Camerlengo/Anthracite Railroads Historical Society <b>resin kit</b>
66000-66999	442	"Nine-Panel"	32" IL steel hopper, 55-t, top chord 10' 6" above rails, 8 side stakes	Funaro & Camerlengo/Anthracite Railroads Historical Society <b>resin kit</b>
67000-67499	144	"Fishbelly Side Sill"	31' IL welded steel hopper, 55-t, top chord 11' above rails, 7 side stakes	<b>Kitbash</b> of Bowser/Stewart <b>styrene kit</b>
67500-67999	111	"Fishbelly Side Sill"	31' IL welded steel hopper, 55-t, top chord 11' above rails, 7 side stakes	<b>Kitbash</b> of Bowser/Stewart <b>styrene kit</b>

## Conclusion

Building a representative B&O hopper car fleet presents some unique challenges to the B&O modeler. At first glance, B&O hoppers appear to be easily modeled from available kits, including major classes such as N-17 and subclasses, N-35 and subclasses, N-37, N-41, N-44, W-2, W-7 and subclasses, W-8, and W-9; however, Duryea cushion underframe details need to be added to N-35 and subclasses, N-37, W-2b, and W-7 and subclasses; major classes such as the N-10 and N-12 subclasses are not available in any form and require involved

kitbashes, and the models available for W-2 and subclasses, while common, are based on tooling over 40 years old. However, none of these obstacles are insurmountable, and we hope that this series will inspire you to upgrade your hopper fleet while sharpening your modeling skills.

As always, we would welcome any input on photographic resources, data research and in-service stories. Constructive criticism is always welcome. If you have any questions on this series, just ask.

## Acknowledgements

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- Rob Schoenberg's Pennsylvania Railroad website <http://pr.railfan.net>



An articulated leans hard on a train of hoppers in this c. 1953-1955 photograph. The car mix in this photo mirrors that of the model photo at the beginning of this article; from left to right, Class N-12g, a Class N-37 War Emergency hopper, a 7-side stake twin hopper, either a Class N-12 or N-17 subclass, and an AAR offset twin hopper. Bob's Photos collection.

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## BUILDING A WESTERFIELD M-15E BOXCAR

BY BRUCE D. GRIFFIN

PHOTOS BY AUTHOR UNLESS OTHERWISE SPECIFIED.



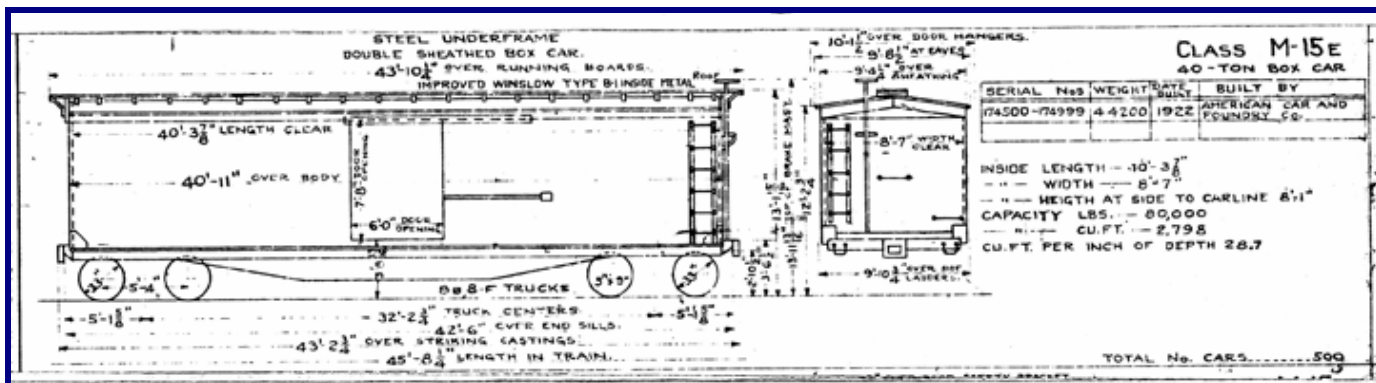
### The Prototype

According to the excellent prototype information supplied with this kit by Al Westerfield and his collaborators, the Baltimore & Ohio Railroad had 500 of the M-15e subclass constructed by American Car and Foundry in 1922. This subclass, along with the M-15b and M-15e, were delivered with Vulcan 5-5-5 “reverse horizontal” ends and a single six foot door. Purchasing M-15 class boxcars began in 1910 and lasted until 1924, so each subclass was relatively unique. While many of the M-15 subclasses were rebuilt and given new subclass designations, the M-15e subclass did not and the only significant changes through its lifespan appear to be mandated safety related upgrades.

The two prototype photographs below were the only I ones I could find of the M-15e as the B&ORHS Archives did not have any. The other M-15 subclasses were well represented in the Archives. Luckily, Jim Mischke was kind enough to share photos from his collection and give us a glimpse of what the cars looked like late in their careers. The chart below gives one a sense of the service lives of these cars. They appear to have served in large numbers until 1949 when they began to be taken out of active service rather quickly. A number seemed to have been put into Company Service (not included in chart) as the photo of X3704 shows.

Year	1922	1926	1930	1934	1938	1942	1946
Cars in Service	500	496	494	491	442	441	436
Year	1949	1950	1951	1952	1953	1956	1960
Cars in Service	413	203	106	29	14	8	1

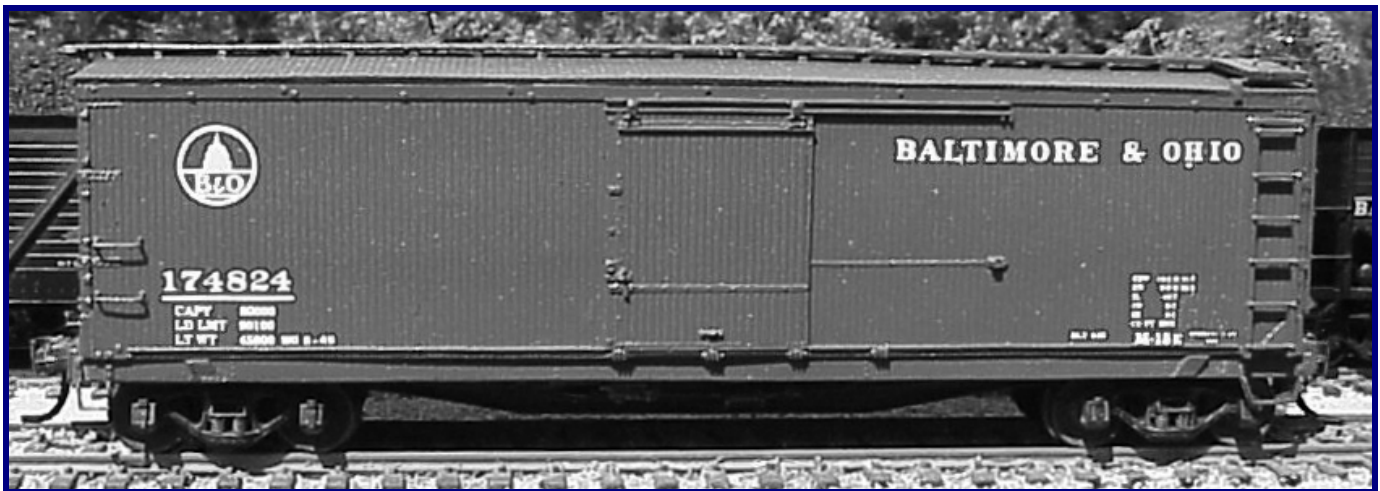




X3704, Martinsburg, West Virginia., 4/3/61, former 174576 converted 8/15/50. John C. LaRue, Jr. collection.



174824, the modeled car, as it sat in 1955 at Zanesville, Ohio. Paul Dunn photograph, Richard Burg collection.



How the author assumed the same car looked just after it was repainted in the late 1930's and photographed with black and white film.



And if someone had some color film, this is how a photo might have looked.

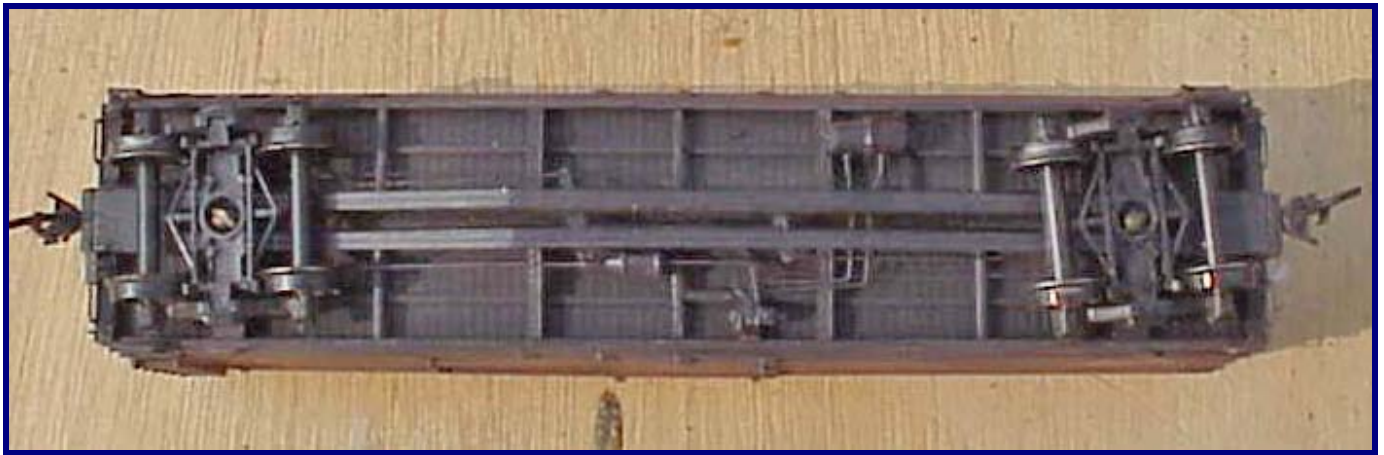
### The Model

This article was the result of pure happenstance. When Westerfield introduced a new kit for a B&O prototype I bought the first one I saw at my local hobby shop, not knowing anything about the prototype other than it must have existed if Al Westerfield produced a model kit of it. The kit sat on my shelf for many years until I decided I wanted to build it. I started it, it sat longer, I photographed my progress, and then finished it for this article. Improvements to this kit have taken place since it was first introduced. One example is that there is no provision for a coupler lift bar, which I added to mine, but the newer kits include. Besides making the coupler lift bars, the only parts I added to the kit were Kadee #5 Universal Magne-Matic Couplers and set of Kato ASF Ride Control A3 Trucks. The detail improvements appear to be minor, so there is no

reason not to build an older kit if you have one. I followed the excellent instruction sheets and wherever they indicated a detail change for a modernized car I followed it. This included AB brakes, a second grab on the left side of the car, and end walks on the roof. Read the instruction sheets several times and make notes, beyond that, build this excellent resin kit according to the instructions and enjoy it (if you have not built a resin kit, this isn't the easiest, but well within the abilities of most modelers). A great kit makes it easy to build a very satisfying model.

My underframe was built before I had access to the information I mentioned in the Editorial, so it is not 100% correct. With that information, I will be able to be more accurate with my next model.





### Painting and Decaling

The completed model was painted with Polly Scale Steam Power Black on the underframe to represent Car Cement and Polly Scale Boxcar Red on the remainder of the car to represent Freight Car Brown. A coat of Polly Scale Gloss was applied to get a smooth surface for decaling. It was then weathered with chalks and oversprayed with very thin coat of Boxcar Red lightened with CSX Tan (keeping the colors within the B&O Family) to fade the decals into the paint and lighten the paint to simulate sun fading. This overspray negated the need for spraying a flat finish. The paint scheme chosen represents what B&O historian Chris Barkan labels as an “Early Kuhler” 1937-40 paint scheme (<http://borhs.org/Logos/CBarkan/BOBoxcarStenciling1920-60s.pdf>) and was chosen as it appears to be the scheme the photo of 174824 was last painted. Careful examination of the photograph in this article reveals the remnants of the Capitol Dome above the car number and the “Baltimore & Ohio” stencil on the upper right side of the car consistent with this scheme. The paint and weathering were chosen to represent the car as it might have appeared in the summer of 1951, two years after it was reweighed at DuBois, PA in 1949. One word of caution is to make sure one chooses the correct capacity decals from the

sheet. The M-15 classes’ car cubic foot capacity changed by subclass and the decal sheet is designed for use with all classes. The instructions indicate the volume for the M-15e should be 2,798 cubic feet.

### Conclusions

If one looks closely at the 1955 prototype photograph of 174824 it appears that the “Baltimore & Ohio” lettering on the upper right of the side starts just to the left end of the upper door track and ends at the ladder. The model decals are a few scale feet longer and must be applied in a position further to the left, starting closer to the door. Further, if one looks at the remnants of the Capitol dome on the left in the prototype photo it appears a little smaller than the decal supplied with the kit. These are very small discrepancies (noted after painting the model) and show that we can always find more information as new photographic evidence become available. While this article does not bring much new information to the table, it does publish some photos of the car not included with the kit. That itself makes writing it a worthwhile exercise. As a matter of fact, one of our favorite *Sentinel* editors was working on this very kit when I sent him a draft to review and he was able to take advantage of the prototype photographs to complete his kit.

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## **Bill of Materials**

Kadee

#5 Universal Magne-Matic Couplers

Kato

31601 ASF Ride Control A3 Trucks

Poly-Scale Paint

F14281 Boxcar Red

414222 CSX Tan

F414110 Steam Power Black

Westerfield

5004 M-15e Boxcar

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## **PLANNED FOR THE NEXT ISSUE**

### **A Modernized, Streamlined 10-1-2 for the B&O**

### **Building West Cumbo Tower in HO Scale**

### **Modeling B&O Hoppers Series, Class W-1**

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